



REF  
TECH  
U  
135  
C2  
R6  
1964

**RESTRICTED**

The information given in this document is not to be communicated, either directly or indirectly to the Press or to any person not authorized to receive it.

# **CANADIAN ARMY MANUAL OF TRAINING**

**CAMT 11-3**

## **OPERATION OF A RCEME FIELD UNIT**

**(1964)**

PREPARED UNDER THE DIRECTION OF  
THE CHIEF OF THE GENERAL STAFF  
BY THE DIRECTORATE OF ELECTRICAL  
AND MECHANICAL ENGINEERING

**ARMY HEADQUARTERS  
OTTAWA**

## DISTRIBUTION

CA(R)—Each RCEME Officer.....	1
RCEME School.....	50
CA(M)—Each RCEME Technical Regiment and Technical Squadron	1

## INTRODUCTION

The aim of this manual is to provide guidance for officers who may command RCEME field units. The manual is written specifically for:

- a. militia officers' training,
- b. study purposes.

The officers concerned are expected to become familiar with the publications referred to in the manual.

The establishment illustrated in the manual has been developed by an assessment of the workload generated by the equipment of an infantry brigade. Yardsticks have been applied to the equipment holdings to determine the number of tradesmen required to perform second line maintenance and the organization and operational concept of the workshop have been developed by trials. Changes in equipment and tactical doctrine will result in changes in the workshop establishment and organization.

The Glossary of Terms contained in Annex A to CAMT 11-2, RCEME in the Field and the definitions detailed in the pamphlet RCEME 11-5, RCEME Terminology, will apply in this manual.

This manual is one of a series of RCEME training manuals. The series comprises the following:

- a. CAMT 11-1 RCEME in Canada
- b. CAMT 11-2 RCEME in the Field
- c. CAMT 11-3 Operation of a RCEME Field Unit
- d. CAMT 11-4 Recovery Technique
- e. RCEME 11-5 RCEME Terminology

Bibliothèque Hartland Molson Library  
MHRC / CRHM

JUN 08 2017

Canadian War Museum  
Musée canadien de la guerre  
1, place Vimy place, Ottawa, Ontario

# CONTENTS

	PAGE
Introduction.....	iii

## CHAPTER 1—GENERAL

Section	
1 Personal Command.....	1
2 Duties of a RCEME Field Unit Commander.....	7

## CHAPTER 2—ORGANIZATION

Section	
1 Outline Organization.....	9
2 Headquarters and Platoon Organization.....	9
3 Duties and Responsibilities.....	12
4 Command and Control.....	19
5 Transport and Equipment.....	20

## CHAPTER 3—MOVEMENT

Section	
1 Drill for Movement by Road.....	22
2 Order of March.....	26
3 Traffic Control During a Move.....	27
4 Defence During a Move.....	27
5 Closing Down and Vacating a Site.....	28
6 Occupying a New Site.....	30
7 Requirement for Route Card.....	30
8 Reconnaissance and Advance Parties.....	31
9 Issuing Orders for a Move.....	31
10 Standing Operating Procedure for a Move.....	31

## CHAPTER 4—SITING AND DEPLOYMENT

Section	
1 Selection of a Site.....	33
2 Layout of a Workshop.....	35
3 Deployment of Platoons.....	36
4 Concealment and Camouflage.....	38
5 Defence Requirements.....	42
6 Standing Operating Procedure for Entering and Leaving a Workshop Site.....	42

## CHAPTER 5—OPERATIONS

Section	
1 System for Handling Repair Workload.....	43
2 Operation of RCOC Platoon.....	54
3 Inspections, Modifications and Recovery.....	55
4 Comparison with British and US Repair Systems.....	56



	PAGE
5 Requirement for Speed and Customer Service.....	59
6 Equipment Beyond Repair and Condemnation of Equipment.....	60
7 Use of Drivers and Gun Crews in Workshops.....	60
8 Safety.....	61

#### CHAPTER 6—DEFENCE

##### Section

1 Use of Guards and Piquets.....	65
2 Defence Against Attack.....	66
3 Nuclear, Biological, Chemical Defence.....	70
4 Area Damage Control.....	71
5 Use of Alarms, Signals and Code Words.....	71
6 Requirement for Practising Defence Alarms.....	74
7 Standing Operating Procedure for Defence.....	74

#### CHAPTER 7—TRAINING

##### Section

1 Unit Training Program.....	75
2 Periodic Refresher Training.....	77
3 Reinforcement Training.....	78
4 Trades Training.....	79
5 Specialist Training.....	80
6 Equipment Familiarization.....	81
7 Courses for Unit Technical Officers and/or Technical Adjutants.....	85
8 Courses on Maintenance for Regimental Officers.....	82
9 Formation Training.....	82
10 Training for Particular Tasks.....	83

#### CHAPTER 8—ADMINISTRATION

##### Section

1 Standing Orders.....	85
2 Responsibilities of Sections of the Administrative Platoon.....	85
3 Responsibilities of Platoons for Administration.....	88
4 Parades and Inspections.....	89
5 Reports and Returns.....	90
6 Commanding Officer's Inspections.....	91
7 Change of Command.....	92
8 Standing Operating Procedures for Administrative Tasks..	92

## PLATES

	RELATED CHAPTER
1 Outline Organization of a Field Workshop RCEME...	1
2 Field Workshop Site—Village Site.....	4
3 Field Workshop Site—Factory Area.....	4
4 Field Workshop Site—Open Country.....	4

## ANNEXES

A. Special Equipment Vehicles in a RCEME Field Workshop.....	2
B. Sample Standing Operating Procedure for Entering and Leaving a Workshop Site.....	3, 4, 7
C. Specimen Route Card.....	3
D. Sample Standing Operating Procedure—Unit Move.....	3, 7
E. Sample Standing Operating Procedure for Acceptance of Work and Repair Procedure in the Main Workshop Group.....	5
F. Sample Standing Operating Procedure for Acceptance of Work and Repair Procedure in the Forward Repair Platoon.....	5
G. Sample Standing Operating Procedure for Acceptance of Casualties and Recovery Procedure in the Recovery Platoon.....	5
H. Sample Standing Operating Procedure—Nuclear, Biological, Chemical (NBC) Defence.....	6
J. Sample Standing Operating Procedure—Ground or Air Defence.....	6
K. Sample Annual Training Program for a RCEME Field Workshop.....	7
L. Entries for Workshop Standing Orders.....	8
M. List of Administrative Items on which a Monthly Report should be Submitted to the Commanding Officer.....	8
N. Commander's Check List.....	8
O. Points to be Checked During a Change of Command..	8

## CHAPTER 1

### GENERAL

#### SECTION 1—PERSONAL COMMAND

##### 101. General

Commanding a RCEME field unit is a task that requires knowledge and experience. This chapter is written with the aim of providing useful information based on experience. It does not purport to tell a unit commander how to operate his unit but does offer useful advice.

##### 102. Decentralization and Personal Control

The best compromise between complete decentralization of authority and complete personal control is never easy to achieve, if only because the right balance varies in peace and war and even during the different stages of the training cycle. One aim of a commanding officer should be to ensure that his unit is able to function efficiently during his absence. On the other hand, he must always retain overall control if he is to command at all. These two opposing requirements must be kept in mind in deciding matters of internal organization and detailed responsibility. The best answer usually is for the commander to delegate most of the responsibility for day-to-day routine tasks to allow himself maximum freedom for general supervision.

##### 103. Efficiency

- a. A civilian factory can measure its overall efficiency in terms of the cost of the article it produces but in a RCEME field unit some sort of yardstick is necessary to enable the workshop commander to assess the efficiency of his unit. Unfortunately the very composition of the unit and the nature of its load add to the difficulty of setting up standards of comparison. The efficiency in a RCEME field unit is directly related to the fighting efficiency of the formation it supports.
- b. The personnel of a field unit often have to be switched from one section to another to meet variations in load. It is seldom possible to achieve full efficiency and at the same time keep to the exact establishment of the sections.

##### 104. Factors Affecting Efficiency

- a. A RCEME field unit must provide rapid and efficient service as economically as possible. The establishment, organization, siting and employment of RCEME field units are based on both technical and military efficiency.

A compromise must be made between the requirements of the two factors as summarized below:

(1) *Requirements for Military Efficiency*

- (a) mobility comparable with that of the units served,
- (b) light, strong equipment that can be easily installed in unit vehicles,
- (c) ability to relocate and begin production quickly,
- (d) self-protection and concealment,
- (e) minimum equipment and stores for ease of transportation,
- (f) repair as far forward as practicable;

(2) *Requirements for Technical Efficiency*

- (a) stability and minimum movement,
- (b) most efficient equipment available regardless of size, weight, etc,
- (c) full requirement of accommodation available day and night,
- (d) minimum of military distractions,
- (e) maximum availability of special tools, stores and equipment,
- (f) a centralized uniform workload.

# 105. **Commander's Workshop Records**

## a. *Activity record*

Duplication of workshop records is wasteful but it is most helpful to the commander to have a summarized activity record readily available. The information required can be provided daily on a sheet of paper or chalked upon a board which is amended at fixed times daily. Examination of the record should never be made a substitute for the commander's personal observation of the day to day progress in the unit. It does, however, provide him with a ready reference. A suitable type of activity record is illustrated in Figure 1.

## b. *Personnel Records*

- (1) The following information on every person in the unit should be readily available to the commander:

- (a) substantive rank and date,
- (b) acting rank and date,
- (c) date of birth,
- (d) trade, classification and date, including any additional trade qualifications,

## DAILY ACTIVITY RECORD

Situation at ..... hrs on .....

	Tanks	APCs	Wheeled Vehs	Guns	Weapons	Wireless Sets	Instruments	Etc.
In progress								
Awaiting labour								
Awaiting parts								
Total in section								
Awaiting acceptance								
Produced this week to date								
Produced last week								
Number of tradesmen (all ranks) in section								

Figure 1

- (e) date due for re-engagement (peacetime),
  - (f) date due for release or discharge (peacetime),
  - (g) educational standard attained,
  - (h) special qualifications (eg, AI RCEME or Dvr MT),
  - (i) platoon in which employed,
  - (j) married or single (details of family where applicable),
  - (k) accompanied or without dependents (peacetime),
  - (l) remarks (commander's personal comments);
- (2) A list of men qualified in specialist duties such as first aid, weapon training, wireless operating and fire duties is also useful.

## c. Record Board of Establishment and Strength

- (1) A useful aid in a unit commander's office is a board marked to show the establishment of the workshop by platoons and sections. A circle of about 14-in diameter is drawn in the appropriate space for each man on the establishment and a small screw-hook fixed over the top. The circles may be painted in different colours for each trade or group of similar trades.
- (2) A disc, of the same size and similarly coloured according to trade groups, is then prepared for

each man of the unit and marked with his number, name, trade and group. A small hole in the top of the disc enables it to be hung over the appropriate circle on the board, showing that the particular vacancy on the establishment is filled. Room is left on the side of the board for additional spaces with spare hooks, marked "LEAVE", "SICK", "COURSE".

- (3) A board of this nature, brought up to date daily has the following advantages over other types of record:
  - (a) it enables the commander to see at a glance the distribution of men among platoons, the whereabouts of non-effective personnel and any misemployment of the tradesmen;
  - (b) it is of value for explaining to visiting superior officers the way in which shortages in strength relative to establishment are distributed within the unit and their effect on the productive capacity of the sections.

d. *Vehicle Records*

- (1) Another useful aid is an up to date list of vehicles and trailers showing the holdings of the platoons and sections and including the following particulars:
  - (a) establishment
  - (b) holdings (by types)
  - (c) purpose for which used
  - (d) whether on or off the road
  - (e) remarks on condition (specific vehicles)
  - (f) actual location if detached.
- (2) The list should also show surpluses and shortages against establishment.

106. **Leave**

- a. Because of its effect on morale, the commander should take a personal interest in leave and the system of allocation. He should try to send men on leave, when possible, at the time of their choice and ensure that they are given adequate notice of leave dates so that they can make their plans. The numbers on leave, however, should seldom exceed 50 percent of the unit strength. Leave policy will be governed by the formation commander.
- b. Conditions governing leave in peace time are set out in CAO 162-1.

### 107. Daily State

- a. The company sergeant-major will produce a daily state showing the situation of every man in the unit, under the following headings:
  - (1) present and available for work;
  - (2) on leave;
  - (3) on course;
  - (4) in hospital (peacetime);
  - (5) temporarily detached for other reasons;
  - (6) on regimental duties or fatigues;
  - (7) sick;
  - (8) absent for any other cause.

### 108. Rank and Trade Structure

The rank and trade structure of the unit should be reviewed frequently by the workshop commander. Strength and establishment should be compared, allowances being made for subsequent decreases and for any expected reinforcements. Any existing or imminent shortages should be discussed with the staff of the formation.

### 109. Working Hours

- a. In peacetime, routine hours of work are notified in standing orders. In war and during major exercises, the hours worked depend upon the workload and the powers of endurance of individuals. A workshop commander must realize that there is a limit beyond which output actually decreases and quality deteriorates, resulting in time-wasting corrective work. He must see that the optimum hours of work are not exceeded except for short periods. As a rule the use of shift work is not advisable in carrying out repairs as continuity is essential for quality. Occasionally, however, shift work may have to be adopted on repairs of operational urgency.
- b. Both in peace and in war there are many activities which detract from production such as clothing exchanges, bathing parades, pay parades, fatigues, daily orders. The adverse effect on training or production can be reduced if these activities are confined to specific periods.

### 110. Games and Recreation

- a. Recreation plays an important part in maintaining unit morale and should be actively encouraged. Its organization requires careful supervision. A commander should consider the following points:
  - (1) Interest and activity in games and recreation usually originates in a small group of enthusiasts. They should be given every encouragement to interest others in their activity.

- (2) In a small unit there are not enough men to maintain interest in a large variety of activities. This fact must be accepted by everyone and no discouragement should result because interest is dwindling in one direction as long as it is increasing in another.
  - (3) The amount of time allowed off to individuals for sports and recreation must be carefully controlled.
  - (4) A good showing in inter unit competitions boosts morale. The investment in time and funds is worthwhile.
- b. If a man is prepared to give his personal time to support a unit activity, he should be allowed some working time for the same purpose.

#### 111. Priority and Scope of Repair Work

- a. During operations, a unit must be ready to move at short notice and must not be cluttered up with a workshop backlog. A decision as to whether an equipment is repairable must be made without delay. It is advisable to train personnel to assist in the inspection section when required.
- b. As far as possible it should be normal practice to inspect and repair all parts of an equipment at the same time. For example, except for in-situ repairs every tank accepted should have its radio, gun control equipment and armament checked over while the main repair is being carried out.

#### 112. Conditions and Standard of Work

If no covered accommodation is available, some form of shelter may be rigged to protect men and stores from the worst of the weather. Regardless of the difficulties of doing repair work in the field the standard of repair must not be allowed to be affected by the environmental conditions. For example, oil must be kept clean, water and dirt must be excluded from where they can do harm, oil seals must be correctly aligned.

#### 113. Offices and Stores

- a. A good workshop is essential. To ensure against loss or accident, parts lists and instruction books should be duplicated, one set being held in the workshop office and one by the appropriate platoon.
- b. The quantities of expendable stores shown in the unit equipment tables are intended as a guide and may be adjusted in the light of experience.
- c. The RCOC platoon commander must maintain close liaison with all storeholding units in the formation, so that temporary shortages of expendable items or of spares in the unit may be satisfied by borrowing.



#### 114. **Special Techniques**

The workshop commander must never lose sight of his aim which is to repair with the minimum of delay the most needed equipment casualties in the formation. He may adopt any technique that facilitates repair and must always strive for improving production. He must encourage new ideas and ensure that successful methods are reported so that they may be introduced into other units.

### SECTION 2—DUTIES OF A RCEME FIELD UNIT COMMANDER

#### 115. **General**

The duties of a unit commander, in general, are contained in the Canadian Army Manual of Unit Administration and Discipline. (See also CAMT 11-2 RCEME in the Field, Chapter 2).

#### 116. **Duties**

- a. The duty of the RCEME field unit commander is to ensure the operational efficiency of his unit so that he can provide the most effective EME services to the units supported. To accomplish this, he must formulate all policies on the operation, organization, training and administration of his unit. This involves:
  - (1) efficient command and control of his officers and men, eg discipline, morale, man-management;
  - (2) ensuring a high standard of maintenance of equipment in his formation;
  - (3) technical advice to other unit commanders;
  - (4) implementation of an efficient unit training program both military and technical;
  - (5) the use of proper workshop techniques and procedures both technical and administrative;
  - (6) the proper deployment and siting of his unit.
- b. It is essential that a unit commander maintains close liaison with other unit commanders in his formation. Constant liaison will result in co-operation and understanding. In this way difficulties which may arise between units can be forestalled or quickly resolved.

#### 117. **Public Relations**

- a. Public relations play a valuable part in fostering good will between RCEME and other corps.
- b. Improving corps public relations is considered a normal part of every RCEME officer's job and the writing of articles, preparation of talks etc, should be encouraged.
- c. Information concerning public relations activities should be passed to higher authority for possible publication.

## CHAPTER 2

### ORGANIZATION

#### SECTION 1—OUTLINE ORGANIZATION

##### 201. General

The unit cited in this pamphlet is a field workshop, but the principles governing the instructions and procedures contained in this and following chapters can be applied to other types of RCME field units.

##### 202. Principles of RCME Organization

- a. The main requirements of a field unit are as follows:
  - (1) a distinct channel of authority and responsibility should extend from top to bottom;
  - (2) the number of subordinates over which one man exercises control should be in the order of from 4 to 7;
  - (3) the duties and authority of individuals should be detailed in writing;
  - (4) the commanding officer has complete authority for executive action and is responsible for the acts of his subordinates.

##### 203. Field Workshop Organization

The outline organization of a field workshop is shown in Plate 1. This organization is for illustration purposes only and is not an authorized establishment.

#### SECTION 2—HEADQUARTERS AND PLATOON ORGANIZATION

##### 204. Workshop Headquarters

- a. The following personnel constitute the workshop headquarters:
  - (1) *Officers*

Major	— Commanding Officer
Captain	— Second-in-command and Workshop Officer
Captain	— Inspections and Liaison
Lieutenant	— Administrative Officer (also commands Administrative Platoon)

(2) *Other Ranks*

Warrant Officer — Class 1	Master Vehicle Technician—Control Office
Warrant Officer — Class 2	Assistant Instructor RCEME—Company Sergeant-Major
Staff-sergeant	— Master Vehicle Technician—Inspections
Staff-sergeant	— Master Vehicle Technician—Scaling
Sergeant	— Vehicle Mechanic—Inspections
Sergeant	— Clerk Administrative—Control Office
Craftsman	— Clerk Administrative—Control Office

205. **Composition of Platoons**

- a. To achieve efficiency it may be necessary to reallocate personnel among the platoons.
- b. The allocation of officers will be subject to change due to temporary absences of officers on duty and leave. The internal rotation of officers will broaden their experience and give them a greater understanding of the operation of the unit.

206. **Administrative Platoon**

- a. The Administrative Platoon is composed of sections with applicable tradesmen as follows:

Orderly Room	Administrative and Pay Clerks
Quartermaster Stores	Storemen Clerks
Regimental Duties	General Duty personnel, Batmen, Batman Drivers and Medical Assistant
Messing	Cooks and Steward
Transport and Maintenance	Vehicle Mechanics and Drivers Mechanical Transport

- b. The administrative officer acts as the platoon commander.

207. **Recovery Platoon**

- a. The Recovery Platoon consists of a headquarters and light, heavy and armoured vehicle recovery sections. The sections have their complement of vehicle mechanics, wheeled and tracked, and the platoon is commanded by a lieutenant with a master vehicle technician staff-sergeant as technical supervisor. The sections can form the following number of recovery teams:

- (1) light section—six teams of two men each;

(2) heavy section—three teams of two men each;

(3) armoured section—one team of two men.

**208. Forward Repair Platoon**

a. The Forward Repair Platoon consists of a headquarters and:

(1) eight tracked vehicle repair teams of three men;

(2) six wheeled vehicle repair teams of two men;

(3) one radio repair team of two men;

(4) one weapons repair team of two men.

b. The platoon is commanded by a captain with the applicable staff-sergeant master technician in charge of each group of teams. Because of its size and the manner in which it is deployed, additional men included in the platoon headquarters are a clerk, cooks, drivers mechanical transport, welder and general duty personnel.

**209. Vehicle Platoon**

a. The platoon is commanded by a lieutenant with a master vehicle technician, warrant officer class 2 and a master electrical technician, staff-sergeant, as technical supervisors.

b. The Vehicle Platoon consists of tracked and wheeled vehicle sections supervised by staff-sergeant master vehicle technicians. The tracked section consists of vehicle mechanics tracked, storeman clerks, electrical technicians and welders. The wheeled section consists of vehicle mechanics wheeled, storeman clerks, electrical technicians, welders and the ancillary tradesmen such as body repairmen, carpenters and machinists.

**210. Weapons and Electronics Platoon**

a. The platoon is commanded by a lieutenant with a master weapons technician warrant officer class 2 as technical supervisor.

b. This platoon consists of a headquarters and weapons, instrument and electronics section. Each section has its complement of applicable tradesmen who are supervised by master technicians of the respective trade. The instrument section also includes tradesmen for typewriter and watch repairs.

**211. Aircraft Platoon**

a. The platoon is commanded by a captain with master aircraft technicians as technical supervisors.

b. The Aircraft Platoon consists of a headquarters and fixed wing, rotary wing, and radio and instrument sections. Each section has its complement of airplane,

helicopter, instrument and radio technicians plus electrical mechanics and body repairmen. Clerks, a cook, storeman clerk and batmen drivers are also included in the platoon headquarters.

## 212. RCOC Platoon

This platoon provides the spare parts for the workshop. It is commanded by a captain RCOC and consists of RCOC storemen and clerks accounting.

## SECTION 3—DUTIES AND RESPONSIBILITIES

### 213. Commanding Officer

- a. The Commanding Officer is responsible to the formation commander for the command of the workshop. In particular, he will:
  - (1) maintain a high standard of discipline and morale;
  - (2) be familiar with the qualifications of each man under his command and make recommendations for promotions and upgrading;
  - (3) take an active interest in the welfare of all ranks;
  - (4) maintain a high standard of unit administration;
  - (5) ensure that all ranks are trained in their military duties including the use of weapons, driving, map reading, camouflage and first aid;
  - (6) produce a defence plan for his locality and rehearse it as necessary;
  - (7) ensure that his unit is prepared to fight at any time;
  - (8) supervise the training of junior officers;
  - (9) be responsible for the care and maintenance of and the accounting for all unit stores and equipment in accordance with applicable instructions;
  - (10) organize his resources to produce maximum output of good quality work;
  - (11) co-ordinate the activities of all sub-units under his command;
  - (12) ensure that a loading plan is prepared and that all personnel of the workshop are familiar with it;
  - (13) be thoroughly familiar with the requirements for a workshop site;
  - (14) arrange for the technical training of personnel under his command;
  - (15) ensure that the maintenance of his vehicles is a good example to all other units of the formation and that his tools, workshop equipment and stores are complete and in good condition;
  - (16) prevent waste and report any damage due to neglect or apparent misuse;

- (17) ensure that the RCOC Platoon is suitably stocked to meet current and anticipated needs and that records are kept of the work done, spare parts held and expended, as required by current instructions;
- (18) by liaison, maintain friendly relations with the units.

#### 214. **Second-in-Command and Workshop Officer**

- a. The second-in-command acts as a staff officer to the commanding officer and commands the unit, in an acting capacity, during his absence.
- b. He is responsible to the commanding officer for the security, supervision and efficient operation of the workshop. His duties involve:
  - (1) advising and giving direction on workshop control, planning and production;
  - (2) ensuring the proper functions of RCEME repair, accounting and financial procedures within the workshop;
  - (3) conferring with the RCOC Platoon, units and the Ordnance Field Park on parts problems that arise or require clarification;
  - (4) being thoroughly conversant with all EME Manual instructions that apply to workshop operations;
  - (5) checking all periodic returns or reports;
  - (6) maintaining graphs, charts and technical statistics as required by the commanding officer.

#### 215. **Inspections and Liaison Officer**

- a. This officer is responsible to the Commanding Officer for conducting periodic inspections of technical equipment in the formation.
- b. His duties involve:
  - (1) the overall supervision of equipment inspections in the formation;
  - (2) in conjunction with the BEME, co-ordinating and scheduling inspections;
  - (3) liaison with commanding officers of units in the formation regarding technical problems and the state of equipment undergoing repair;
  - (4) reporting and assisting units in correcting faults in unit servicing procedures;
  - (5) ensuring all applicable records are properly maintained and distributed;
  - (6) informing the second in command of the future workloads revealed by the inspections.

- c. Inspection of formation equipment is described in RCME 11-2, RCME in the Field, Chapter 7.

## 216. Administrative Officer

- a. The administrative officer is responsible to the Commanding Officer for:
  - (1) the supervision of the Company Sergeant Major, Quartermaster-Sergeant, Superintending Clerk, Master Cook, Transport NCO and Orderly Officer;
  - (2) cleanliness of all cookhouses, including officers' and sergeants' messes;
  - (3) POL reserves;
  - (4) adequate water stocks;
  - (5) bathing arrangements;
  - (6) postal arrangements;
  - (7) rations and kitchen equipment;
  - (8) despatch of correspondence and returns;
  - (9) war diary;
  - (10) logs.
- b. As the commander of the Administrative Platoon he is responsible for discipline and security in the platoon and the direction of his personnel in the event of alarms or in defence of the workshop.
- c. He may act as the transport officer and is then responsible for the efficient operation of the transport section.

## 217. Workshop Sergeant-Major

- a. The workshop sergeant-major (warrant officer class 1) acts as the assistant to the workshop officer and under his direction is responsible for the efficient operation of the various platoons in the workshop.
- b. In order to carry out this responsibility he must:
  - (1) ensure that the latest repair techniques are used in all sections;
  - (2) ensure that the most economical and efficient use is made of personnel, parts, materials and equipment;
  - (3) be familiar with the various types of equipment in the formation;
  - (4) know the capability of his tradesmen;
  - (5) enforce safety regulations and fire precautions;
  - (6) ensure that tradesmen are given the opportunity for upgrading in their trades and that a detailed plan is prepared and followed for this training.

- c. His clerical staff is responsible for the maintenance of the various registers and accountable documents used in the control office. The sergeant clerk assists in the detailed loading of the workshop and supervises the processing of work through the control office.

#### 218. **Company Sergeant-Major**

- a. The company sergeant-major (warrant officer class 2) is responsible to the commanding officer, through the administrative officer, for discipline and regimental duties in the unit.
- b. His duties involve:
  - (1) drafting of charge reports and conducting orderly room parades;
  - (2) checking other ranks to maintain proper standards of dress and deportment;
  - (3) drafting and co-ordinating the unit regimental training program including junior and senior NCO training for assessment courses in those ranks;
  - (4) producing and maintaining unit duty rosters for other ranks in the unit;
  - (5) special training required for firing parties, guards of honour, salutes;
  - (6) inspecting the mens' quarters;
  - (7) arrangements for sanitation, fire prevention and security of the workshop;
  - (8) drafting of the defence plan;
  - (9) distribution of arms and rations.
- c. He supervises all men performing regimental duties.
- d. He conducts daily parades.
- e. He is responsible for all unit signs, ie, placing and removing during movement of the unit.
- f. He is responsible for area cleanliness and tidiness.

#### 219. **Inspection NCO**

The staff-sergeant master vehicle technician is responsible for supervising IN and OUT inspections in the workshop. The sergeant vehicle mechanic, with the aid of other mechanics from the vehicle platoon if necessary, will carry out the actual IN and OUT inspections on vehicles entering the workshop for repair.

#### 220. **Scaling NCO**

The scaling NCO is responsible to the commanding officer for ensuring that the scales for spare part holdings are in accordance with formation requirements. He must ensure that his unit is in possession of properly amended scales documents for every type of equipment in the formation. He will assist other units with spare parts problems.



**221. Regimental Quartermaster-Sergeant (Storeman Clerk RCOC)**

- a. This warrant officer class 2 is responsible to the Commanding Officer for accounting and control of all stores and equipment on charge. He supervises technical stores personnel, procedures and administration to ensure that the section operates efficiently.
- b. His duties include:
  - (1) a continuous check of all stores and equipment on distribution;
  - (2) a check of all ledger postings;
  - (3) continuous spot-checks to see that registers for issues, receipts, indents, unit CAFCs 2149 and packing notes, are properly maintained;
  - (4) checking ledger holdings against obsolete stores listed in supplements to Canadian Army Orders;
  - (5) checking amendments to Equipment Issue Scales (EIS) and ordering required EISs;
  - (6) supervision of unit stocktaking;
  - (7) liaison with Ordnance personnel;
  - (8) periodic checking of technical stores and equipment to ensure that holdings are in accordance with actual usage requirements;
  - (9) security of stores, equipment and ammunition in the quartermaster stores.

**222. Superintending Clerk (Staff-Sergeant)**

- a. This NCO is responsible to the Administrative Officer for the efficient operation of the orderly room and section offices, if formed, and the control, conduct and training of all clerks in the unit.
- b. He must:
  - (1) peruse and distribute incoming correspondence;
  - (2) peruse and check all out-going correspondence for correct staff duties;
  - (3) supervise and train all clerks, rotating them in the various duties periodically so that each clerk will know all jobs;
  - (4) prepare entries for unit Part 1 Orders and casualty returns for Part 2 Orders;
  - (5) prepare routine correspondence, returns and reports;
  - (6) control the indenting for and use of printing and stationary items;
  - (7) ensure all administrative publications are current and amended;
  - (8) ensure the security of all documents and files;
  - (9) institute a program for upgrading clerks in the unit;
  - (10) supervise the loading, storage and unloading of the office truck during, operations and exercises;

- (11) ensure that all applicable registers, as mentioned in CAMT 1-36 Vol. 2 Staff Duties in the Field, Chapter 2 are maintained;
- (12) ensure that all documents and files are properly maintained in accordance with the applicable administrative instructions.

## 223. Platoon Commanders

- a. The commander of the Recovery Platoon, Vehicle Platoon and the Weapons and Electronics Platoon are each responsible to the workshop commander for the efficient operation of their respective platoons.
- b. In order to discharge this responsibility they must, through constant supervision:
  - (1) ensure the latest repair and recovery techniques are used in their platoons;
  - (2) ensure that the most economical and efficient use is made of personnel, parts, materials and equipment;
  - (3) be familiar with the various types of equipment applicable to their platoons;
  - (4) know the capability of their tradesmen;
  - (5) enforce safety regulations and fire precautions, as they apply to their platoons;
  - (6) ensure that their tradesmen are practised in the trade functions needed for upgrading, that a detailed plan is drawn up to carry out upgrading and that the plan is followed.
- c. They are responsible for the immediate command and control of the personnel in their platoons.

## 224. Forward Repair Platoon Commander

- a. In addition to the responsibility of the platoon commander in paragraph 223 this officer is responsible for the administration of his platoon while detached from the main workshop and must:
  - (1) maintain contact with the forward elements of the formation being supported in order to carry out repairs in situ;
  - (2) effect liaison with the formation EME and the staff on matters of repair and deployment in the forward area;
  - (3) arrange for the daily replenishment of spare parts, POL, rations, ammunition, water, etc;
  - (4) deploy the various mobile repair teams to the best advantage;
  - (5) ensure that the platoon has a suitable defence plan.

**225. Aircraft Platoon Commander**

- a. In addition to the responsibility of the platoon commander in paragraph 223 this officer is responsible for the administration of his platoon whenever it is located at an airstrip remote from the workshop. The platoon commander, in this case, must:
  - (1) effect liaison with the formation EME officer and the staff and be prepared to despatch personnel to repair aircraft in situ;
  - (2) arrange for the daily replenishment of spare parts, POL, rations, ammunition, water;
  - (3) ensure that the platoon has a suitable defence plan.

**226. RCOC Platoon Commander**

- a. This officer is responsible for the immediate command and control of the personnel in his platoon. He is responsible for technical control of the platoon and advice to the workshop commander on matters concerning technical stores.
- b. He is responsible for provision, accounting and control of ordnance stores stocked and issued by his platoon.
- c. He must:
  - (1) ensure that his stores trucks are situated to the best advantage of the workshop platoons;
  - (2) ensure that his level of stock is maintained in accordance with RCME scales;
  - (3) prepare excess stock reports and usage figures;
  - (4) be prepared to despatch a small detachment of personnel and stores with the Forward Repair Platoon.

**227. Platoon Warrant Officers**

- a. In the platoons, the warrant officers are responsible to their platoon officers for:
  - (1) the immediate supervision of personnel;
  - (2) the technical efficiency of their platoon;
  - (3) trades training;
  - (4) the use of efficient repair techniques;
  - (5) the most economical and efficient use of personnel parts, materials and tools;
  - (6) the enforcement of security, fire and safety regulations.
- b. They will assist their platoon commanders in defence, security and discipline.

**228. Section Supervisors (Staff-Sergeants/Sergeants)**

Section supervisors are responsible to their respective platoon warrant officers. Their duties are analogous to those of their platoon warrant officers.

**SECTION 4—COMMAND AND CONTROL****229. General**

- a. Section 3 of this chapter describes the various duties and responsibilities of the personnel in the headquarters exercising command and control of the workshop.
- b. The headquarters, administrative platoon and the main repair group of the workshop are normally located in the formation logistics area and their means of communication are described in CAMT 11-2, RCEME in the Field, Chapter 6.
- c. Command and control in the field is also described in general, in CAMT 11-2, RCEME in the Field, Chapter 2.

**230. Forward Repair Platoon**

- a. The commander of the Forward Repair Platoon (FRP) will normally site his headquarters near unit 'A' echelons. The FRP commander will despatch repair teams to carry out repairs in situ as and when requested by units. Repairs are co-ordinated by the formation EME officer.
- b. The field workshop will continue to support the FRP from the formation logistics area.
- c. When the FRP is deployed, the commander will have a radio set on the brigade administrative net. It may be possible to use the facilities of another unit in the immediate vicinity in case of emergency. Communication to the workshop will normally be by line or by Signals Despatch Service.

**231. Recovery Platoon**

- a. The recovery platoon will normally remain under command of the workshop. When teams are in the forward area they will be deployed by the formation EME officer.
- b. Complete details on command and control are contained in RCEME 11-2, RCEME in the Field, Chapter 3.

**232. Main Repair Group**

- a. This group consists of the vehicle, weapons and electronics, and aircraft platoons. Command and control is maintained by the workshop headquarters through the platoon commanders.
- b. When the aircraft repair platoon is deployed away from the workshop the platoon commander will be responsible for the operation of his platoon under the direction of the workshop headquarters.

### 233. **RCOC Platoon**

- a. The RCOC Platoon is under command and control of the workshop headquarters for all purposes except technical control. The platoon is situated in the logistics area along with the main repair group and workshop headquarters. The senior RCOC officer of the formation is responsible for technical control.
- b. A detachment of the RCOC platoon will accompany the forward repair platoon to supply assemblies and spare parts.

## SECTION 5—TRANSPORT AND EQUIPMENT

### 234. **Allocation and Use of Transport**

- a. Transport is considered under the following headings:
  - (1) *Personal Transport*. This is used primarily by specific individuals in the course of their work.
  - (2) *Domestic Transport*. This transport is required for daily administrative duties of the workshop.
  - (3) *Technical Transport*. This type of transport comprises vehicles specially equipped for a particular task.
  - (4) *Stores Transport*. This transport comprises vehicles used primarily for holding stores and conveying them between sites.
- b. The general guidance given below is intended to help a workshop commander to allocate his transport to the best advantage.

### 235. **Personal Transport**

- a. Trucks  $\frac{1}{2}$ -ton should be allocated to individuals whose duties require them to travel most, eg the workshop commander, the workshop officer, the recovery officer, the forward repair platoon commander, the inspections and liaison officer and the RCOC platoon commander. This allocation should not be exclusive however, and the vehicles must be made available for other users.
- b. Motorcycles are used for despatch rider duties and convoy control. It may sometimes be necessary for them to be ridden by individuals other than the normal users but this should be discouraged as motorcycles deteriorate rapidly when subjected to frequent changes of driver.

### 236. **Domestic Transport**

- a. Domestic transport is used for:
  - (1) collection and distribution of rations, mail, POL, etc;
  - (2) water duties;
  - (3) administration of detachments;

- (4) the movement of small bodies of men, eg, reinforcements, sick, sentries;
- (5) collection and return of stores.
- b. The best control and maximum economy is ensured if transport for all these purposes is controlled by the transport officer. Vehicles for domestic transport are therefore held by the administrative platoon. The collection of RCOC stores is normally done in vehicles of the RCOC platoon.

#### 237. Technical Transport

Special equipment vehicles (SEVs) are allocated to platoons in accordance with part (iii) of the field workshop establishment. These vehicles are specially equipped with machinery, tools and test equipment to enable the sections to carry out their assigned tasks. Annex A contains a list of SEVs (by platoons) with a brief description of each.

#### 238. Stores Transport

- a. Stores transport consists of the vehicles of the RCOC platoon, those carrying workshop stores for the workshop sections and the QM stores vehicles. Vehicles for stores are allotted to platoons in accordance with part (iii) of the unit establishment.
- b. A suggested loading table, to be used as a guide, is also included in the workshop establishment.

#### 239. Minor Additions to Vehicles

To promote efficiency in the unit, office space should be provided for officers and NCOs in charge of platoons or sections. As their work entails holding pamphlets, repair manuals, parts lists, the completing of work orders and maintenance of registers, racks, desks and cupboards may be constructed in certain vehicles and trailers in lieu of regular office accommodation. Such additions should be kept to a minimum, should be easily removable and should involve no structural alterations to vehicles.

#### 240. Equipment

- a. The technical equipment of a field workshop includes:
  - (1) machinery trucks and trailers;
  - (2) hand tools, power tools and special tools;
  - (3) portable forge, anvil, welding equipment etc;
  - (4) materiel handling equipment.
- b. A field workshop's entitlement to tools and equipment, excluding vehicles, is contained in CAF M23-5953/1 Cdn War Equipment Table for a Field Workshop RCEME and CAF M23-4100 Canadian Basic Scales (Field) for RCEME Tradesmen in Field Units.

**241. Contents of Machinery Trucks and Trailers**

- a. There are different types of machinery, trucks and trailers each designed for a particular task. The workshop establishment of vehicles will normally provide the following range of equipment:
  - (1) lathes,
  - (2) machines for drilling, grinding, valve refacing,
  - (3) gas and electric welding equipment,
  - (4) battery charging equipment,
  - (5) power hand tools,
  - (6) test equipment.
- b. The power is provided by trailer mounted generators.

**242. Hand and Power Operated Tools**

An appropriate range of hand and power operated tools, drills, reamers, taps and dies, precision measuring instruments, etc are held in accordance with the equipment table and scales mentioned in paragraph 240b.

**243. Special Tools**

- a. Most equipments and vehicles require special tools for stripping and assembling. These tools are issued to workshops on a scale appropriate to the equipments and vehicles in the formation.
- b. Special tools that are only used by one of the platoons or sections should normally be held in the platoon or section concerned. The rest should be in the central tool stores.

**244. Materiel Handling Equipment**

Workshops are provided with a portable floor crane (1 ton capacity) and truck wreckers which may be used for handling materiel in and away from the workshop. The RCOC platoon is provided with a truck mounted crane. Truck mounted cranes are also held by the forward repair platoons.

**245. Shelters**

Various types of shelters and maintenance covers are provided on the equipment table. General purpose tents are also provided. These can be used as stores tents, office tents and maintenance shelters.

## CHAPTER 3

### MOVEMENT

#### SECTION 1—DRILL FOR MOVEMENT BY ROAD

##### 301. General

- a. Movement by road must be done according to a plan, subject to adjustment, because of the air situation and the likelihood of ground attack or ambush. The method adopted will vary for day and for night moves. It will depend on the number of vehicles involved, the traffic density and the road conditions. Movement according to various plans must be practised during training.
- b. The following paragraphs deal mainly with the movement of a workshop in a unit column, suitably subdivided, but the general guidance or control and discipline is applicable to almost any other kind of move.
- c. This section and the following sections should be read in conjunction with CAMT 2-90, Road Movement and CAMT 1-36 Staff Duties in the Field, Chapter 5, Section 14.

##### 302. Warning Orders and State of Readiness

- a. Detailed orders for a move are preceded by a warning order whenever possible.
- b. During mobile operations, or when the move of a workshop is imminent, it will be necessary to restrict work to tasks that can be completed in a certain time, eg, four hours, twelve hours, twenty-four hours. An example of the usual method adopted is the issue of an order, say at 0800 hours, that a workshop will be restricted to twelve hour tasks with effect from 1400 hours. This system enables the completion of work in hand which requires perhaps a further sixteen hours and which otherwise would have to be backloaded partly completed.
- c. On receipt of such an order the workshop begins to backload all work that cannot be completed in the period specified in the order, but continues to accept work that can be completed before the move.

##### 303. Sequence of Events

- a. A typical sequence of events in moving a workshop follows:
  - (1) Warning order is received from formation headquarters which generally includes the phrase "*NO move before . . . hours*".



- (2) Workshop commander convenes preliminary "O" group. Any special orders concerning restrictions of work and backloading of equipment that cannot be completed before the move are issued. (paragraph 302 refers).
  - (3) The order to move, with location confirmed and a copy of the movement table, if applicable, is received.
  - (4) Workshop commander convenes final "O" group. Any special orders including additional tasks not within the normal drill of the advance party are issued.
  - (5) Advance party moves to new site.
  - (6) Workshop packs up ready to move.
  - (7) Workshop moves. Column meets advance party representatives at the rendez-vous usually near the entrance to the new site.
  - (8) Workshop deploys at the new site.
  - (9) Formation headquarters is informed of the completion of the move and the exact location of the new workshop site.
  - (10) The rear party joins the main body.
- b. In the event of a sudden move some of these events may take place concurrently or may be omitted.

#### 304. **March Discipline**

- a. The workshop platoons should be organized into standard packets of four to eight vehicles. Each packet normally moves independently with an interval of two minutes between packets and four minutes between platoons.
- b. Density of vehicles, speed and halts are maintained as directed by formation headquarters.
- c. At every halt, vehicles should draw into the side of the road and take advantage of any available cover. Men from each group must be detailed to dismount and control movement of any passing traffic.
- d. At any unscheduled halt, platoon commanders must immediately make a forward reconnaissance or take other steps to discover the cause.
- e. At dawn and dusk, vehicle spacing must be adjusted to the conditions. At dawn, in particular, closed up columns must be given orders to open out before they become an attractive target for aircraft.
- f. Vehicles that have broken down must be cleared to the roadside quickly and must display an easily recognizable sign so that following groups do not pull up behind them in error. Recovery vehicles at the rear of the column will recover casualties or ensure that they are swept clear of the route.

### 305. Duties on the Move

- a. Duties are assigned as follows:
  - (1) The Commanding Officer controls and co-ordinates the movement of the column. He reports closing and opening times of old and new sites to the formation commander.
  - (2) Platoon Commanders control and co-ordinate the movement of their respective platoons. This control includes checking march discipline, reporting accidents and vehicle casualties, ensuring proper servicing of vehicles during halts, forward reconnaissance at unscheduled halts and concealment and dispersion of vehicles at halts.
  - (3) Drivers will maintain march discipline at all times and service their vehicles at the prescribed times. During halts, they will move their vehicles off the road as far as possible and in the case of a casualty, remain with the vehicle and wait for the recovery section.
  - (4) Assistant drivers, when detailed, will follow the route by means of a map or route card, change over with the driver at intervals during the move and act as road guards when halted.
- b. Communications and signals during the move will consist of:
  - (1) motorcyclist;
  - (2) hand signals as described and illustrated in the Manual for Drivers (Wheeled) and CAMT 11-4 Recovery Technique, Annex F;
  - (3) radio if provided.

### 306. Loading and Unloading of Vehicles

- a. The careful and methodical loading and unloading of vehicles is vital to efficiency. A workshop cannot function without a large quantity of technical equipment, tools and stores. Unless there is a good loading drill, some equipment will inevitably be lost or damaged each time the unit moves and deficiencies may not be discovered until the items are required.
- b. To minimize loss or damage of stores in transit, these procedures should be followed:
  - (1) Accurate loading tables should be prepared for all vehicles and kept up-to-date. They should be used as check lists and made out in order of stowage so that items required first on arrival at the new site are immediately accessible.
  - (2) The responsibility for the correct loading of each vehicle should be given to an individual, usually the NCO or man in charge of the equipment carried.

- (3) Loading drills should be regularly reviewed to ensure that work is evenly apportioned and that all vehicles can be loaded carefully in the time allowed. The actual loading should be practised until every man knows his task thoroughly and can carry it out efficiently both by day and by night.
- c. All vehicles in a field workshop are needed for transporting men, equipment or stores when the unit moves. Some of them may be required immediately for domestic use on arrival in the new position and the plan must ensure that these can be easily and quickly unloaded.

### 307. Allocation of Personnel to Vehicles

- a. Where possible, men should be allocated to vehicles appropriate to their trades. A suggested loading table for personnel and equipment is outlined in the field workshop establishment.
- b. All tradesmen should carry their personal weapons and tool kits with them. Vehicle crews should be changed as seldom as possible so that everyone knows where he is to travel. One member of each vehicle crew should be detailed as its commander and given charge of its contents. The driver remains responsible for the vehicle and the vehicle kit.

## SECTION 2—ORDER OF MARCH

### 308. Organization of the Unit Column

- a. Normally the second-in-command is with the advance party and the commanding officer leads the column.
- b. The unit column should be organized into groups, each group consisting of packets as mentioned in paragraph 304. A suggested order of march of these groups follows:
  - (1) Wheeled vehicle section of the Vehicle Repair Platoon.
  - (2) Tracked vehicle section of the Vehicle Repair Platoon
  - (3) RCOC Platoon
  - (4) Weapons and Electronic Repair Platoon
  - (5) Aircraft Repair Platoon (may move independently)
  - (6) Headquarters
  - (7) Administrative Platoon
  - (8) Forward Repair Platoon (when not deployed in forward area)
  - (9) Recovery Platoon.
- c. A normal order of march should be detailed in Standing Orders so that each vehicle driver knows which vehicle he normally follows and the advance party knows which vehicle to expect next at the new site.

### SECTION 3—TRAFFIC CONTROL DURING A MOVE

309. Normally personnel of the Canadian Provost Corps will control all traffic in a formation move.

310. Control within the workshop portion of the formation is the responsibility of the workshop commander. He is assisted by each packet and platoon commander. Motorcyclists are required to check march discipline ie density, speed, route, and turnings. They will direct the column at intersections and turns, watch for slow vehicles, redirect traffic around casualties and carry messages within the column. It is common practice for one motorcyclist to ride immediately behind the commanding officer and one to ride at the rear of the convoy with the recovery officer so that he may inform the unit commander of any casualty or deviation from the movement plan.

311. Traffic control is described fully in CAMT 10-3, Traffic Control.

### SECTION 4—DEFENCE DURING A MOVE

#### 312. Ground Attack

- a. An attack by ground forces against a unit on the move is likely to take the form of an ambush, including a defended road block and attack from the flanks. Prompt counter-action designed to engage the enemy with the maximum possible volume of fire is necessary. All ranks must understand their tasks in the defence plan which should provide for:
  - (1) transmission of an unmistakable alarm signal down the column;
  - (2) reconnaissance and appreciation of the enemy's strength and disposition;
  - (3) notification of formation headquarters;
  - (4) action to clear obstructions or road blocks within the capability of the unit.
  - (5) protection of both flanks;
  - (6) passing information to following traffic.
- b. Sub-division of the column into groups provides the basic organization for defence. Men from the leading groups should clear any obstruction whilst the remainder deploy to cover them by fire and to defend the flanks of the column. Drivers should remain by their vehicles and be ready to move them under cover or to drive on when the obstruction is cleared. Inevitably, during a night attack, there will be some confusion and uncertainty. Strict control by platoon commanders, active reconnaissance and good intercommunications are necessary to deal with the situation.

### 313. Air Attack

- a. Defensive action against air attack is similar to that in a workshop site. (See Chapter 6). Vehicles should make use of any available cover even if doing so results in a temporary increase of density within a group. Automatic weapons should be sited and manned and at long halts slit trenches should be dug. If the enemy is active in the air, camouflage nets should be draped over vehicles and secured clear of the wheels. Alert air sentries are essential and one man, other than the driver, should be detailed to keep a lookout from each vehicle while the column is moving. When the column is halted, sentries must be detailed with the remaining personnel taking cover. Upturned faces are easily seen from the air.
- b. Clear orders are necessary on the action to be taken when a convoy is suddenly subjected to air attack. In close country the column should normally halt and all should take cover clear of their vehicles. In open country, especially on a winding road, it may be best to keep moving. If some vehicles halt, while others drive on, bunching and confusion will result. Therefore, clear orders, discipline and good intercommunication are most important.

## SECTION 5—CLOSING DOWN AND VACATING A SITE

### 314. General

- a. In many ways it is more difficult to close down a workshop and vacate a site efficiently than it is to occupy a site and open up. On arrival at a new location everyone has an assigned task to complete before normal work starts, where as when a warning for a move is received, some of the men will begin preparatory tasks immediately while others will be required to complete work in progress and backload work.
- b. The drill for closing down must be flexible. The workshop sergeant-major should be made responsible for ensuring that every task is started as soon as men are available for it and that no time is wasted. Although preparations may begin piecemeal a definite closing hour must be ordered, generally two or three hours before the actual move, when, except for the rear party, all work ceases other than that of loading and preparing to vacate the site.

### 315. Disposal of Work on Hand

- a. When the workshop is ordered to move, the formation headquarters will have notified all concerned that no further work can be received at the present site. The workshop commander must now decide how best to dispose of all work on hand by the time of the move.

His decision will be governed by tactical considerations, by the distance he has to move and by the backloading facilities available. The plan will usually be made after consultation with the formation EME from whom he will receive instructions about the disposal of equipment casualties that are not being taken to the next location. This problem is simplified if the present site is to be taken over by another workshop.

- b. Work on hand is disposed of in one or more of the following ways:
  - (1) completed before the move;
  - (2) driven, towed or transported to the new site with the unit column;
  - (3) backloaded before the move;
  - (4) left at the former site in charge of the rear party and handed over later, to another workshop;
  - (5) destroyed or disabled to prevent use by the enemy.

### 316. Disposal of Transient Personnel

- a. It is usual in war for men from other units to remain at the workshop while their equipments are being repaired. When the workshop moves the general rule for their disposal is:
  - (1) crews of equipments that are to be backloaded out of the formation are returned to their units;
  - (2) crews accompany equipments that are transferred to another workshop in the formation.

### 317. Miscellaneous Tasks

- a. The main tasks to be completed before vacating a site are set out in Annex B.
- b. If a rear party is left behind, some of the responsibility for clearing up the site can be delegated to it.
- c. In the event of a sudden move it is seldom possible for a workshop to move out as a complete unit, because:
  - (1) a certain amount of ferrying may sometimes be necessary, especially if the RCOC platoon is carrying many major assemblies;
  - (2) some equipment casualties may have to be left behind under guard to await the arrival of backloading vehicles or another workshop;
  - (3) if the move has not been notified to all concerned in sufficient time, guides or representatives must be left to collect stragglers and to inform visitors of the new location.
- d. Rear workshop detachments should be avoided and only in exceptional circumstances is it justifiable to reduce the capacity of the workshop by leaving technical personnel behind to complete work. The rear party normally need only include one warrant officer or senior NCO with one other rank from each platoon.

## SECTION 6—OCCUPYING A NEW SITE

318. **Moving In**

- a. The move into a new site is controlled by the officer in charge of the advance party assisted by the platoon representatives. He should know the order of march and the time at which the column or columns will arrive. Together with the platoon representatives he meets each column as it arrives at the entrance.
- b. As the vehicles arrive and are recognized, they are guided by the platoon representatives to their assigned positions via the planned route. The vehicles must be led off the road without any halting or bunching of the column. The final adjustment of positions requires time and care and can be done after all have been placed on their approximate positions. To deploy a workshop in a new site, especially at night, requires skill, training, experience and above all, good discipline.

319. **Preparing for Work**

- a. The occupation of a site is not complete until all necessary arrangements for concealment and protection have been made and the workshop is open for work at full capacity. Priorities should be laid down for the various tasks, although it will be possible for many of them to be carried out concurrently.
- b. A list of the necessary tasks on entering and leaving a workshop site, in their normal order of priority, is given in Annex B. The priorities will often be altered by the workshop commander to suit particular circumstances. These tasks generally apply to the occupation of a harbour area as well as a more permanent site.

## SECTION 7—REQUIREMENT FOR ROUTE CARD

320. A route card will be prepared for all drivers if time permits. The alternative is a briefing of the drivers.

321. A route card is useful because:

- a. It shows the map location of the unit on the ground.
- b. The scale and sheet number of the map are shown on the card.
- c. The speed and density of the vehicles are listed on the card.
- d. From the location of the unit the route to the new location is set out in complete detail.
- e. The detail of the route shows:
  - (1) the mileage from halt to halt;
  - (2) the timings from halt to halt;
  - (3) map references for each halt;
  - (4) directions eg, turn left, right, bridge;
  - (5) diagrams (time permitting).

322. A specimen route card is shown in Annex C.

## SECTION 8—RECONNAISSANCE AND ADVANCE PARTIES

### 323. Reconnaissance

- a. Upon receipt of a warning order to move, the reconnaissance party moves to the new area, usually within the formation logistics area, to select suitable sites for the various platoons and sections.
- b. The reconnaissance party normally consists of the unit commander, or a delegated officer, a driver and a motorcyclist. Every officer and warrant officer in the unit should be given the opportunity to accompany a reconnaissance party in order to learn how to assess the suitability of a site.
- c. There may be occasions, for example, during a rapid withdrawal, when a workshop has to close down and move before its next site has been selected. The workshop commander should despatch the reconnaissance party to reconnoitre the new site and to rendezvous with the advance party which will move ahead of the main column. The reconnaissance party will be directed to a general area by formation headquarters. A guide is left at the rendezvous to meet the rest of the unit.

### 324. Composition of the Advance Party

- a. Normally the advance party consists of:
  - (1) Second-in-command;
  - (2) Company Sergeant-Major;
  - (3) driver (transport section);
  - (4) one junior NCO and craftsmen from each platoon;
  - (5) a motorcyclist.

### 325. Duties of the Advance Party

Duties of the advance party are described in Annex D.

## SECTION 9—ISSUING ORDERS FOR A MOVE

326. The correct issuing of orders requires a drill and to ensure that all responsible individuals are properly briefed, an Orders "O" group should consist of all officers, warrant officers and section heads.

327. It must be a rule that if a member of the "O" group is not available when it is ordered to assemble, a substitute attends. The administrative officer or chief clerk usually tells the members the time and place of assembly and the maps required.

328. In war, it will seldom be necessary to issue written orders, but the standard form for such orders CAMT 1-36 Staff Procedures Vol 3 (Staff Duties 1963) should be used when issuing verbal orders. Subordinates will then become used to the sequence and be able to follow the orders more easily with less chance of error.

## SECTION 10—STANDING OPERATING PROCEDURE FOR A MOVE

329. A sample Standing Operating Procedure for a unit move is at Annex D.



## CHAPTER 4

### SITING AND DEPLOYMENT

#### SECTION 1—SELECTION OF A SITE

##### 401. Responsibility for Siting

- a. The area in which a workshop is to be sited is determined by tactical and administrative considerations as well as by technical requirements. The principles on which the tactical handling of field workshops are based and the many factors which have to be considered are explained in CAMT 11-2, RCEME in the field.
- b. Seldom will a workshop commander be able to exercise much discretion in the choice of his site. His usual task is that of fitting his unit to the best advantage into an area allotted to him. The following paragraphs deal with the more domestic and local aspects of siting.

##### 402. Requirements

- a. The main requirements of a good workshop site are described in the following paragraphs.
- b. Their relative priority will vary with conditions of war. At the outset of a campaign, for example, and until air superiority has been achieved, the vital need for concealment from air observation may well override all other considerations; a workshop that has been effectively bombed or strafed has a negligible productive capacity for some time. Once air superiority has been achieved, however, other requirements more directly affecting production will tend to take precedence.

##### 403. Hard Standings and Covered Accommodation

- a. Although many field workshops have worked for long periods without either of these assets, output is greatly increased if they are available.
- b. Night work is frequently necessary, increasing the value of covered accommodation; the improvisation and use of blackout shelters when working in the open is a great hindrance.
- c. There is rarely sufficient hard standing and covered accommodation available and a workshop commander would count himself fortunate if he had hard standing to accommodate the tanks and wheeled vehicles under repair.

##### 404. Good Road Access and Proximity to the Formation Axis

Thorough road reconnaissance is an essential preliminary to the selection of a site. The workshop must be easily accessible to the units it serves. The requirements for reasonable roads or tracks

between the formation axis and the workshop is obvious, but bridge classifications are sometimes overlooked. One low classification road bridge between an otherwise excellent site and its potential load may make the site useless. Access to the site from the main road or axis should be suitable for the heaviest equipment expected to enter the site. Vehicles must be able to enter and leave the site without manoeuvring. There must also be suitable hard roads or tracks for use as traffic circuits within the workshop area.

#### 405. **Concealment and Dispersion**

The degree of dispersion of platoons or individual vehicles will vary widely with the air situation, the type of country and whether nuclear or non-nuclear warfare exists. The main factors considered in laying out a workshop are described in Section 2 of this chapter. If there is any choice of areas, a workshop commander must exercise good camouflage sense and select a location with natural facilities for concealment. In particular, he must consider how best to hide casualty parks and other areas where vehicles must be concentrated.

#### 406. **Protection**

Although a workshop is at all times responsible for its own defence, it cannot defend itself and work at the same time. Economy of manpower is a major consideration and a site in which a large number of technical personnel must frequently occupy defensive positions is a bad one. A commander must therefore take full advantage of any protection provided by other troops in the area.

#### 407. **Villages**

- a. Villages invariably offer better sites than wooded country, but they are natural targets for air and artillery and hence may be undesirable. The advantages usually to be found in villages are:
  - (1) traffic circuits and hard standings;
  - (2) farmyards, buildings, garages, etc, which offer good facilities and covered accommodation;
  - (3) water and suitable billets.

#### 408. **Woods**

- a. Wooded sites are suitable in dry weather. The need for concealment from air observation may necessitate their use, although any wood is suspect and may attract attention from the air. Some traffic in a village is normal but traffic in and out of a wood is abnormal and will draw attention. Thus the safety of a wood as compared with a village may prove to be an illusion.
- b. If a wooded site is selected, the following factors are important:
  - (1) It must allow for suitable traffic circuits for both tanks and wheeled vehicles and sufficient space for turning and unloading transporters.

- (2) The ground must be able to stand up to the traffic.
- (3) Movement must not be seriously impeded by trees or ditches and it must be possible to occupy or vacate the site in darkness.
- (4) The cover available should not be much less than the equivalent of an area 500 yards by 500 yards.

#### 409. Final Selection

- a. Technical and tactical requirements for a workshop site conflict. The workshop commander must bear in mind that if his unit occupies an excellent working site but has to spend most of its time taking cover from air or ground attack, it will be of little use as a workshop. On the other hand, if his unit occupies an excellent defensive position which is a poor working site, it will again be of little use for production.
- b. He must assess the relative importance of the tactical and technical considerations and choose the site that provides the best compromise.

### SECTION 2—LAYOUT OF A WORKSHOP

#### 410. Planning and Method

- a. When planning a field workshop layout, consideration must be given to:
  - (1) technical requirements;
  - (2) dispersion and concealment;
  - (3) security and local defence.
- b. The relative importance of these will vary with the tactical situation. Generally, it is best to consider the technical requirements first and lay the workshop out accordingly, subsequently making any modification necessary in the light of other considerations.
- c. A new workshop layout should resemble a standard layout to allow personnel to settle down quickly and easily after a move. It is advisable for the officer concerned to have an ideal standard layout in mind although variations in size and shape of the site will usually force him to depart from it to some extent.
- d. The best method is to site the more difficult platoons and sections first and then fit in the remainder. Priorities should be in the following order:
  - (1) the wheeled vehicle section of the Vehicle Platoon;
  - (2) the tracked vehicle section of the Vehicle Platoon;
  - (3) the vehicles of the RCOC Platoon;
  - (4) The Aircraft Platoon (when not deployed separately);

- (5) the weapons section of the Weapons and Electronics Platoon;
  - (6) the vehicles of the Recovery Platoon.
- e. After these sections have been sited, suitable areas must be found for the following, which are not listed in order of priority:
- (1) orderly room;
  - (2) workshop office and control office;
  - (3) parks for equipment awaiting collection, inspection and backloading;
  - (4) vehicle park and visitors vehicle park;
  - (5) electronic and instrument section;
  - (6) administrative area, including cookhouse, QM area, POL dump;
  - (7) billet areas, normally close to platoon working areas;
  - (8) officer's and sergeant's messes, when required.
- f. As the siting proceeds, it will frequently be necessary to make adjustments in the allotment of the areas. The officer making the plan should have a rough sketch of the site, preferably talc covered, on which positions can be marked and easily amended.

#### 411. Examples of Workshop Layout

Plates 2, 3 and 4 illustrate typical workshop layouts that have been used either during training or in operations. They show that a perfect layout is seldom achieved as the various requirements cannot all be met.

### SECTION 3—DEPLOYMENT OF PLATOONS

#### 412. Tracked Vehicle Section of the Vehicle Platoon

- a. The following are the main requirements for this section:
- (1) Easy access from the tank circuit.
  - (2) Proximity to transporter off-loading points.
  - (3) Good hard standings.
  - (4) Covered working accommodation which allows room for rotating the turrets of tanks.

#### 413. Wheeled Vehicle Section of the Vehicle Platoon

The requirements of this section are similar to those of the tracked vehicle section. A larger working area is required to handle the greater number of wheeled vehicles.

#### 414. Recovery Platoon

The site of this platoon should have easy access to and be close to the formation main axis. Due to the size and number of the recovery vehicles involved, abundant cover is necessary.

**415. RCOC Platoon**

- a. The ideal place for the parts platoon is between the tracked and wheeled vehicle sections with its office close to the workshop office.
- b. Binned trucks of the platoon should be placed near the platoon office. Trucks carrying bulk stores may be farther away but should be parked near a hard road along which a recovery vehicle can operate for loading and unloading major assemblies.

**416. Weapons and Electronics Platoon**

- a. This platoon is relatively easy to site as it breaks readily into sections: electronics, instruments and weapons. The following points are important:
  - (1) machinery trucks requiring power must be close to the generators to avoid the voltage drop resulting from long power leads;
  - (2) freedom from dust is an important consideration in the siting of electronic and instrument repair trucks;
  - (3) the instrument section should be sited where there is a good field of view.

**417. Forward Repair Platoon**

- a. As the vehicles and personnel of this platoon will be situated in the forward area most of the time, siting will not be necessary in the workshop area. If some of the teams return to the workshop for re-fitting and are required to remain a day or two, they will be sited with the vehicle platoon.
- b. When deployed in the forward area, the forward repair platoon will normally be sited in a grouping of forward detachments of service units, or with grouped A echelons of the arms.

**418. Aircraft Platoon**

- a. The aircraft platoon should be sited near an air strip or area adaptable as a strip.
- b. If an air strip cannot be cleared near the workshop area then the aircraft platoon must be detached. This will necessitate a re-distribution of administrative personnel.

**419. Headquarters and Offices**

- a. The orderly room should be close to the main entrance of the site. This not only saves time in dealing with visitors or despatch riders but also facilitates their control. Sufficient covered space should be made available for a visitor's park.

- b. The routes to be taken by control documents should be kept as short as possible. The workshop office must therefore be placed as close as possible to platoon offices. If it can also be sited reasonably close to the main entrance, visitors can be prevented from going directly to repair sections to enquire about the progress of any particular job.
- c. It is convenient to have the control office as part of the workshop office. If the air situation is adverse, this may be impossible and the control office will often have to be sited some distance from the main workshop together with the parks for equipment awaiting inspection or collection. Such dispersion may have to be accepted in order to avoid the disclosure of the workshop site.

#### 420. **Administrative Area**

- a. The QM area, including the cookhouse, QM stores, transport section, POL, company sergeant-major's office, should be sited wherever suitable space can be found. There must be good access to the area from the road for unit administrative traffic. An important requirement is that there should be sufficient cover near the cookhouse for the men to eat their meals free from air observation.
- b. If messes and canteens are set up, they should be centrally placed so as to reduce the risk of officers, senior NCOs and men being caught a long way from their places of duty in the event of an emergency or surprise attack.

#### 421. **Billet Area**

Sleeping and rest accommodation for all ranks should be in their platoon area.

### SECTION 4—CONCEALMENT AND CAMOUFLAGE

#### 422. **General Considerations**

- a. Concealment is necessary both to protect a workshop from air attack and to prevent its activities from becoming known to the enemy. Both are equally important and remain so even after air superiority has been achieved.
- b. The problem is complicated by the fact that some movement within a workshop is inevitable and unless it can be concealed the most successful camouflage of vehicles and equipment will be wasted.
- c. Concealment must therefore be considered from two points of view:
  - (1) the initial disguise of a site and all that it contains; and
  - (2) the subsequent concealment of movement throughout the period of occupation.

- d. The basic principles of concealment are included in CAMT 2-70 Visual Training—Observation and Concealment (All Arms) 1957 and it is the duty of officers and NCOs to know them. This section deals with their application to the particular task of concealing a workshop. (Other reference: FM 5-20 Camouflage—Basic Principles and Field Camouflage 1959).
- e. In wartime, there will always be some traffic in a rear area as well as some obvious signs of its occupation. Even if the enemy has air superiority he will concentrate his attention on worthwhile targets such as concentrations of troops and vehicles.
- f. A field workshop has a difficult concealment problem as most of its workload consists of vehicles which must be brought in for repair, go out on test and depart after the completion of repair. Once a workshop is identified as such, it becomes an attractive target.

#### 423. Making the Concealment Plan

- a. The need for concealment must be considered both in selecting a workshop site and in deciding on the layout. The latter will usually be a compromise between the opposing requirements of dispersion to ease concealment and concentration for workshop efficiency.
- b. The three main considerations in deciding how to conceal the layout are:
  - (1) avoid prominent features likely to provide good registration or harassing targets for enemy artillery fire, eg, crossroads, copses and isolated villages; such places will always attract the close inspection of aircraft;
  - (2) retain the existing ground pattern;
  - (3) make full use of any existing road or track circuits;
  - (4) cut foliage should be kept fresh.
- c. The normal layout of a workshop when seen from the air provides a typical appearance, or "signature", which should be disguised if possible even at the expense of working efficiency. Such a disguise may sometimes be made even more effective if it is practicable and permissible to construct a decoy workshop of standard pattern at a suitable distance. The effort involved in doing this would hardly be worthwhile in a fluid operation but might be justified if it is expected that the workshop will be static for some weeks.
- d. Examination of air photographs of the site, both before and after occupation, is helpful in planning the concealment and in finding mistakes before they become impossible to rectify. Request for air photographs are made through formation headquarters.

#### 424. **Concealment of Vehicles and Equipment**

- a. The method of concealing any unit is to fit the vehicles and equipment into the landscape without causing any drastic change to the existing ground pattern. Nets, screens and other devices must be used with the aim of helping the various components of the workshop to merge imperceptibly into whatever background has been selected.
- b. Each new site provides its own particular problems but the following points are of general application:
  - (1) All vehicle glass should be completely covered so it will not reflect light.
  - (2) Cord should be tied to the corners of the camouflage nets so that they may be pulled out to disguise the shape of vehicles.
  - (3) Natural foliage may be used under and over the nets to break hard outlines, but growing branches should not be pushed through the mesh of nets or there will be difficulty in cleaning them for a move, especially at night.
  - (4) Spare nets should always be available to assist in the concealment of vehicles brought in for repair and to cover bulky items such as packing cases. They may also be used for the construction of permanently camouflaged working spaces.
  - (5) The camouflage of vehicles carrying bulk stores should be carefully arranged on poles, so that it can be moved quickly to give access to the stores.
  - (6) Stores placed on the ground should be laid out in long stacks, following the edges of roads and tracks or other lines of the ground pattern.
  - (7) Flat screens made of nets supported on wood or wire frames, or wire mesh, are simple to construct and can be arranged to give protection from both vertical and oblique observation. Their great advantage, if they are skillfully placed, is that they conceal considerable movement below and behind them. They make a valuable addition to natural cover in sparsely wooded sites.
  - (8) The emission of smoke should be carefully controlled, particularly at first and last light.
  - (9) The light emitted by electric welding is intense and can be seen for miles, not only at night but also on dull days.

#### 425. **Concealment of Movement**

- a. The detection of movement can be limited by two means:
  - (1) firstly, by ensuring that it takes place as much as possible after dark;



- (2) secondly, by segregating areas where movement is essential; this latter system, while not actually concealing movement, may limit the results of enemy observation to a small part of the workshop.
- b. Reliance on air sentries to indicate when it is safe to permit movement is impracticable in view of modern aircraft speeds and photographic techniques.
- c. The most difficult problem is the concealment of the evidence of movement. For this reason it is important to secure a site that includes a good system of hard tracks or roads. Clearly marked traffic circuits must be devised for all categories of personnel and vehicles and their use must be rigidly enforced.
- d. In particular there must be no widening of tracks through use or cutting of corners. Any new tracks must be under cover if possible or made to fit in with the existing ground pattern. Tracks made in siting vehicles should be carefully covered with suitable material.
- e. Entrances and exits of workshops in wooded areas and vehicles around which there must be considerable movement are particularly difficult to conceal. They should be given the best natural cover available and improved as far as possible by the use of screens.

#### 426. Villages and Built Up Areas

The same concealment principles apply in villages as elsewhere but the best method of merging vehicles into the pattern is to disguise them as outhouses, sheds, or integral parts of buildings. The material requirements are timber, iron and farmyard rubbish. Workshops are particularly well equipped for adaptation of such material. Both top and side cover is required, with careful consideration being given to shadow as well as shape.

#### 427. Open Country

When sufficient covered sites are not available, parts of a workshop may have to be sited in the open. The policy then must be to hide whatever can be hidden, disguise as much as possible of the remainder and disperse whatever is left. Adherence to the ground pattern becomes more important than ever, combined with the use of suitable material for the garnishing of nets. Digging-in may be desirable for some of the vehicles if time permits.

#### 428. Concealment Discipline

- a. Discipline is the vital factor in determining whether a workshop is revealed, or still concealed, after a few days in a new site. Strict track discipline must be enforced on all personnel and vehicles including visitors of all categories. Strict concealment discipline is also necessary; this includes prohibition of standing in the open, looking up at aircraft and exposure of litter and laundry.

- b. All officers must understand the general principles of concealment and know how to apply them; their very survival, and what is more important, the survival of their men will depend on it.

#### SECTION 5—DEFENCE REQUIREMENTS

429. The following defensive measures will be taken after the workshop has been deployed:

- a. Slit trenches must be dug or adequate cover from shelling or bombing must be immediately available.
- b. Slit trenches should be sited to conform to normal tactical requirements such as mutual support and an adequate field of fire; the primary consideration must be proximity to the men who will occupy them.
- c. Anti-tank weapons must cover likely approaches for enemy tanks.
- d. Automatic weapons must have good fields of fire.
- e. Road blocks must be kept in position on roads not normally used by the workshop and must be covered by fire when manned.
- f. Buildings can be effectively used as observation posts and strong points.
- g. An efficient alarm system must be prepared and troops trained to implement the system effectively both by day and by night.
- h. Code words must be prepared for use by troops when moving within the confines of the workshop area.

#### SECTION 6—STANDING OPERATING PROCEDURE FOR ENTERING AND LEAVING A WORKSHOP SITE

430. A sample standing operating procedure for entering and leaving a workshop site is detailed in Annex B.

## CHAPTER 5

### OPERATIONS

#### SECTION 1—SYSTEM FOR HANDLING REPAIR WORKLOAD

##### 501. The Requirements of Workshop Procedure

- a. Workshop procedure should be designed to produce the maximum output of good quality work on the most needed equipments. It should achieve this output with the minimum of personnel (productive and non productive), the minimum of delay and the maximum of economy of stores. It follows that there should be a minimum of paper work consistent with the keeping of adequate records.
- b. At first sight, it might seem that the procedure suitable for peace time and static conditions would differ greatly from that appropriate to the mobile conditions of war. To some extent this is so, but peace time procedure should form the common basis, being streamlined in war to take advantage of the diminished necessity for permanent records, checks on vehicle kit deficiencies, non-essential repairs and so on. Workshop Procedures are detailed in EME Manual Management K010.

##### 502. The Importance of Uniform Procedure in Field Workshops

- a. The procedure described in this chapter, has been found to provide a good compromise between the requirements of engineering efficiency and the simplicity essential to operations.
- b. It should provide the basis for training the personnel of RCME field units. Service conditions, both in peace and war, make frequent changes in personnel inevitable. If this standard procedure is used in all field units, a man will quickly become effective when he is posted from one unit to another.

##### 503. Flexibility

- a. While uniformity of method is an ideal to be aimed at in training, flexibility is equally essential in practice. For example, if a particular equipment is in short supply the staff may decide that all normal priorities and repair schedules will be temporarily abandoned so that the maximum number of those equipments may be kept in service.
- b. When the workshops are operating under peace-time conditions in Canada, procedures may have to be modified so as to approach more closely the requirements of

static workshops. For example, "Requests for Services" may be submitted for a damaged equipment but the damaged equipment itself may be held in unit lines until called into workshops.

- c. Regardless of whatever temporary changes are necessary, it is essential for long term efficiency that the standard procedure is resumed as soon as practicable. Variations from the familiar procedures in which a unit has been trained must not be made without careful consideration. Approval for any such changes should be obtained from the senior EME who is responsible for co-ordinating the efforts of all workshops in the formation.

#### 504. **Capacity of Workshops**

- a. The repair capacity of a field workshop is affected by:
  - (1) the stores actually available;
  - (2) the number and technical ability of available personnel;
  - (3) the availability of suitable repair equipment for any particular job;
  - (4) the work in hand and the amount of higher priority work outstanding;
  - (5) the limits prescribed by the appropriate permissive repair schedules;
  - (6) the maximum time (specified in orders from the senior EME) which may be spent on any repair job.
- b. Field Workshops do not normally undertake work outside their prescribed limits (defined in the permissive repair schedules), but the workshop commander may vary these limits if he receives orders to do so from the senior EME or if he is satisfied that it is necessary.

#### 505. **Internal Organization**

- a. For the control and execution of repair work, the following are required:
  - (1) Workshop Office (Control);
  - (2) Receipt and Issue Office (R & I);
  - (3) production inspections;
  - (4) workshop repair platoons;
  - (5) parts platoon;
  - (6) workshop parks and section stores.
- b. *Workshop Office*
  - (1) This is the technical executive centre of the unit and it is responsible for co-ordinating workshop activities. Its particular tasks include arranging inspections, allocating work, checking progress and keeping the workshop records.

- (2) The minimum staff required is the workshop officer the workshop sergeant-major and two clerks. In certain circumstances, such as when the workshop is employing civilian labour during static conditions, additional clerks and parts chasers may be employed.

c. *Receipt and Issue (R & I) Office and Stores*

The R & I office is the place to which unit representatives report when delivering or collecting equipment. It is controlled by the workshop office but should remain separate from it.

d. *Production Inspections*

- (1) The system of inspection varies with the type of work. The major repair load of the workshop, ie, wheeled and tracked vehicles, justifies the use of personnel whose sole task is inspection but in certain specialist sections such as electronics, instruments and weapons, the quality of output must be left to the warrant officer or NCO in charge of the section. When unserviceable equipment is accepted in a workshop for repair, it will be given an "IN" inspection to verify the repairs necessary, to check the safety factors, to estimate the time required to complete those repairs and to determine the range and quantity of spare parts required to effect the repair. After repairs have been completed, the equipment will be given an "OUT" inspection to ensure that the equipment has been properly repaired and is operating satisfactorily.
- (2) Whatever the system may be, it should conform to a basic requirement of inspection in that the same individual should not be responsible for the quantity of output and for judging its quality.
- (3) The best arrangement is for the workshop officer to be responsible for the allocation and employment of inspectors; at the same time the workshop commander must take great personal interest in their work and also see that the needs of production are not allowed to override the requirement for quality. In any dispute between production and inspection, the workshop commander himself must be the final arbiter.
- (4) No individual can be expert in all branches of engineering and the workshop commander may well be uncertain of his own ability to judge the standard of work produced by some of the specialist sections. He should make full use of any expert advisers available.
- (5) Much of the work done in a field workshop does not justify inspection before it is completed but

there are certain jobs where inspection during repair is necessary. An example is the lining-up of a tank engine; there may be no outward sign that this has been improperly done until the tank is on test or even returned to the unit. An oil seal may then leak and many assemblies will have to be removed before the fault can be rectified. The workshop commander and workshop officer must be on guard against such occurrences and they should lay down certain intermediate stages of repair where checks will be carried out by an inspector.

e. *Workshop Repair Platoons*

- (1) The workshop officer distributes work to the various platoons according to their capacities. The main responsibility of these platoons is to complete the work according to the schedule established by the workshop officer.
- (2) When specialist sections of a platoon are detached from the main workshop for any length of time, it will be necessary for them to maintain their own records.

f. *RCOC Platoon*

The work of the RCOC platoon is dealt with in Section 2. From the point of view of workshop procedure it is important to discriminate between expendable stores, which should be held by platoons for use as required, and the spare parts required for a particular job. Both types of stores are demanded by workshop platoons from the parts platoon. Expendable stores are demanded in quantity to meet the requirements of perhaps two to four weeks, whereas spare parts are demanded individually against a job number allotted to each equipment under repair.

g. *Workshop Parks and Stores*

- (1) When not actually being worked on, large equipments such as vehicles and guns should be held in parks according to the stage of repair they have reached. The number of parks will depend on the workload and the space available, but some or all of the following will be necessary:
  - (a) *Near the R&I Office:*
    - "IN" Inspection,
    - "OUT" Inspection,
    - Completed;
  - (b) *Any Convenient Area:*
    - Awaiting Parts or Labour,
    - Beyond Repair.

- (2) Smaller equipments, such as weapons, radio sets or instruments, may be held either in the R&I stores or by the appropriate sections of the workshop, according to the space available.

## 506. **Repair Procedures**

### a. *General*

Field units, while in a static location will follow workshop procedures in accordance with EME Manual Management K 010.

### b. *Acceptance of Work*

- (1) The limits of work to be accepted are prescribed by the senior EME of the formation but a field workshop should normally accept work when it arrives at the workshop entrance provided that:
  - (a) it comes from a unit normally supported by the workshop but in an emergency this provision will be waived;
  - (b) the work required is of a legitimate nature.
- (2) A workshop should not refuse work and call it in at a later date unless:
  - (a) the equipment is sufficiently serviceable to continue in use until workshop capacity is immediately available;
  - (b) the staff has directed that the unit concerned should be given a very low priority and workshop capacity is fully allocated.
- (3) Special circumstances arise when a workshop has been ordered to accept no more work because of an impending move. In that event, the workshop office should tell the unit representatives the location of a workshop that can accept their work or take the equipment and backload it. Common sense must be used in dealing with each case.
- (4) Recovery of equipment prior to acceptance for repair is described in Chapter 3 of CAMT 11-2, RCME in the Feld and in CAMT 11-4 Recovery Technique.

### c. *Receipt of an Equipment Casualty*

- (1) The unit representative reports to the R&I office and is told where to deliver the equipment. Every equipment must be accompanied by copies 2 to 5 of the Request for Services (CAFC 2149), signed by a responsible unit officer or warrant officer. In emergency, if no written request is brought, the workshop (control) office may initiate the CAFC 2149 for signature by the unit representative.

- (2) The request will be checked for accuracy and all deficiencies, documents and accessories will be listed on the reverse side of copies 2 and 3 of the request. Vehicles must be checked for antifreeze and the strength noted on the request form.
- (3) If a vehicle is recovered from unit lines by a recovery team, the unit is given a temporary receipt endorsed as "unexamined". The normal check for deficiencies is made at the workshop.
- (4) If there is any doubt as to the validity of the repair, the workshop officer or workshop sergeant-major should be requested to investigate before the equipment is accepted by the workshop. When it is accepted, copy 2 of the CAFC 2149 is given to the unit representative as a receipt.

d. *Safe Custody of Vehicle Kits*

- (1) Each vehicle has an equipment issue scale which details the removable accessories, the additional equipment normally supplied by the manufacturer and the items placed in or on the vehicle from RCOC sources. These additional items are referred to as kits.
- (2) If a vehicle is accompanied by drivers or crew, they are responsible for the vehicle kits. Otherwise the loose items are checked and held in the R&I stores together with any attractive and easily removeable items.

e. *Information from Units*

- (1) Units requiring RCEME assistance in battle will obtain the quickest results by sending the fullest possible information on the casualty. This should include whatever is relevant of the following:
  - (a) name of unit
  - (b) type and make of equipment and army registration number
  - (c) condition classification (X, Y, Z or BR casualty)
  - (d) whether or not equipment can be moved by direct or suspended tow or if it can move under its own power
  - (e) grid reference of location of equipment or guide
  - (f) extent of assistance required (in detail)
  - (g) details of location, ie minefield, marsh, available approaches, etc
  - (h) whether or not the crew has remained with the equipment.



- (2) It is most beneficial, particularly in peacetime, if a unit provides additional information such as:
- (a) the equipment requires routine inspection
  - (b) the equipment has the following defects (give fullest possible details)
  - (c) the equipment is useable in its present condition and should be returned to the unit if the repairs cannot be completed by a certain date
  - (d) the equipment is not useable in its present condition
  - (e) the equipment is surplus to immediate requirements and some delay in repair is acceptable.

f. *"IN" Inspections*

- (1) On receipt of the Request for Services (CAFC 2149) in the workshop office, the first entries should be completed in the request register and the warrant officer or NCO in charge of inspections notified that an "IN" inspection is required. Inspection should be carried out in two stages; in the first stage the equipment is classified as being either:
- (a) X Casualty — requires repair within unit capability,
  - (b) Y Casualty — requires repair within the capability of second and third line workshops in the Canadian or British organization and within the capability of third and fourth echelon in the United States organization.  
(Y1 - Field Workshop Repair)  
(Y2 - Medium Workshop Repair)
  - (c) Z Casualty — requires repair within the capability of base workshop in the Canadian and British organization and fifth echelon in the United States organization.
  - (d) BR Casualty — beyond economical repair.
- (2) If the equipment is to be repaired by the workshop the "IN" inspector will carry out an inspection to verify the diagnosis of the unit tradesmen and check safety factors. He will enter the details on an inspection record which will accompany the equipment through the workshop. The entries will

include a statement of the work required, including any general check or adjustment, instructions for the examination of components thought to be faulty and a list of stores required as far as they can be estimated from the inspection.

- (3) The procedure for backloading or condemnation will be carried out in accordance with EME Manual Management H 550, H 551, H 700 and K 010 (Figure 3). Relevant entries should be made in the workshop register and arrangements made for disposal of the equipment.

g. *Decontamination*

The principles of NBCW decontamination are set out in EME Manual Management V 411.

h. *Planning of Workload*

- (1) In a field workshop, man-hours can be saved by intelligent anticipation of the need for special tools, working space and tradesmen.
- (2) Once the job has been accepted the workshop officer or sergeant-major will make his appreciation and decision and adopt one of the following courses:
  - (a) repair
  - (b) hold awaiting labour or parts
  - (c) backload.

i. *Demanding Stores*

- (1) The recommended system for demanding stores is to maintain the parts lists in the workshop platoon and have the requirements for spare parts listed by platoon or section NCOs. In this way the stores can be picked up by men of the platoon or section requiring them;
- (2) The normal manner for obtaining stores is detailed in a sample procedure in Annex E.

j. *Aircraft Repair*

The foregoing procedures are applicable to aircraft repair. Unit and field repair procedure is detailed in EME Manual Aviation Equipment P 020 which supplements EME Manual Management K 010. Base repair is the responsibility of the RCAF.

k. *Forward Repair Platoon*

- (1) Repair in the forward areas is carried out in-situ by the forward repair platoon (FRP). The FRP consists of:

- (a) a command and control element (HQ)
  - (b) eight tracked repair teams
  - (c) six wheeled repair teams
  - (d) one radio repair team
  - (e) one weapons repair team
  - (f) a small RCOC spare parts detachment.
- (2) When deployed, the FRP is normally sited centrally in the A echelon area.
- (3) Equipment casualties are normally reported by radio from the unit on the forward administrative net of the formation. The report is passed to the FRP using a repair message form giving the following information:
  - (a) Equipment nomenclature
  - (b) CAR Number
  - (c) Assembly or repair and tools required
  - (d) Location of equipment or guide RV
  - (e) Unit or sub-unit
  - (f) Other information which might expedite the completion of the repair such as a unit technician's analysis of the repairs required.
- (4) The FRP commander now checks the availability of the assembly required and notifies the unit when he can have a mobile repair team (MRT) at the RV.
- (5) The MRT designated for the job collects the tools and assemblies required, proceeds to the equipment and does the repair. The team will normally arrive in its own vehicle but occasionally for urgent tasks, may be moved in by aircraft.
- (6) All repair teams possess the ability to live and work in the area of the equipment casualty until repairs are completed.
- (7) Priority of repair will be influenced by many factors and for this reason the FRP commander must be kept fully informed on the operational situation so that an assessment of any given job can be completed quickly and the MRT despatched without unnecessary delay.
- (8) Although vehicle casualties are the most common, the forward repair system remains the same for any type of equipment. Additional teams will be formed from the workshop as required.

- (9) The method of ordering parts by the FRP is contained in CAMT 11-2, RCEME in the Field, Chapter 8.

### 507. Operating Procedures

Standing Operating Procedures for the following workshop operations are detailed in the annexes shown:

- ANNEX E Acceptance of Work and Repair Procedure in the Main Workshop Group.
- ANNEX F Acceptance of Work and Repair Procedure in the Forward Repair Platoon.
- ANNEX G Acceptance of Casualties and Recovery Procedure in the Recovery Platoon.

### 508. Progression of Work

- a. It is essential for good control that the workshop officer and the workshop sergeant-major should check jobs regularly to see for themselves how work is progressing. The use of junior NCO progressers in a small unit is a waste of manpower, though runners may be used to obtain the answer to specific questions.
- b. The Job Progress Recorder is maintained by the workshop office and should never be any more than a few hours out of date. For major jobs this presents no problem as the workshop officer or workshop sergeant-major can bring it up to date after each workshop check.
- c. It is essential for efficient control of the workshop that all arrangements with units on such matters as completion dates are made by the workshop officer and not by the platoon or section commander.
- d. Some of the tasks require closer supervision than others because they are difficult or because the equipments are urgently required. The workshop officer may record such jobs in a special notebook in which progress and delays are noted. The notebook should be kept in the workshop office so that inquiries from units can be promptly answered.

### 509. Completion of Work

#### a. Stages

- (1) When work on an equipment is completed it has to be cleared from the workshop. The three stages of clearance are:
  - (a) "OUT" inspection
  - (b) Documentation
  - (c) Collection by unit.

b. *"OUT" Inspection*

- (1) On completion of the repair, an inspector completes an "OUT" inspection report on the appropriate inspection form. If the repair is found satisfactory he signs the request. If the "OUT" inspection discloses the need for further repair, the requirements should be entered on the request and, together with the inspection form, sent back to the workshop platoon concerned through the Workshop Office.
- (2) The standards to be observed in "OUT" inspections will vary with circumstances. Discretion must be exercised by the workshop commander to ensure that equipments are not rejected unnecessarily. Thorough "OUT" inspections ensure a high standard of workmanship and should be performed whenever possible.
- (3) After passing "OUT" inspection the equipment is sent to a collection park or the Receipt & Issue (R&I) stores where it will be collected by the unit representative.

c. *Documentation*

- (1) On receipt of the signed CAFC 2149 from the platoons or sections, the workshop office clerk will complete the workshop records and the life history documents of the equipment and notify the unit that the equipment is ready for collection.
- (2) Some equipments leave workshops with items to be kept under observation or with faults that have not been corrected. The methods used to inform the units are outlined in Annex E.
- (3) The FRP, on receipt of a message from a unit, prepares a "Request for Services" (CAFC 2149) in accordance with EME Manual Management K 010, completing copies 3, 4 and 5 after the repair has been done. Copy 2 is given to the unit for accounting purposes and copies 3, 4 and 5 are retained by the FRP for recording and auditing by RCOC.
- (4) Whatever method is used, the necessary papers are completed by the workshop office.
- (5) After the collection of the equipment by the unit, the workshop office arranges the final filing of the documents.

d. *Collection by Unit*

- (1) The unit representative takes over the equipment, checking the deficiency list that was made when it was brought in for repair, signs a receipt, collects the life history documents when applicable and takes the equipment away.

- (2) In war, repaired tanks may have to be sent to a forward delivery squadron where they are re-kitted and provided with a fresh crew before being re-issued to a unit. When this system is in force the unit originally owning the vehicle will already have received a replacement from the same source. In these circumstances close liaison is necessary between the workshop and the forward delivery squadron with which it may work, on the disposal of the original crew.
- (3) In the case of repair by the FRP, the repair is carried out in-situ and the equipment returned to the crew.

## SECTION 2—OPERATION OF RCOC PLATOON

### 510. General

- a. There must be close liaison between the workshop officer and the RCOC platoon in order to maintain normal and special provision action, vigorous pruning of items for which there is little or no requirement and the introduction of new items into the scale. The parts officer must be advised on all these matters by the workshop officer since issue records by themselves may be misleading.
- b. Workshops can also assist the RCOC platoon by:
  - (1) forecasting unusual requirements;
  - (2) reclaiming scarce items from BR equipment or from BLR equipment when authorized;
  - (3) advising on items that may be issued in lieu of those demanded;
  - (4) arranging for local purchase or manufacture;
  - (5) reporting assemblies and components in short supply.
- c. The platoon is provided with an office truck in which the stock record and location cards are normally held. Alternatively, they may be carried in the appropriate stores vehicle, but there are many disadvantages to this arrangement should the platoon be widely dispersed. Whichever method is used, an abbreviated location index should be kept in each stores vehicle to show locations, at least by vocabulary sections.

### 511. Stores Required by the Forward Repair Platoon and Aircraft Platoon

- a. A small detachment from the RCOC platoon will be attached to the forward repair platoon and the aircraft platoon during operations.
- b. When additional parts and assemblies are required by these platoons, arrangements will be made to have them shipped by helicopter or vehicle from the rear area.

## 512. Expendable Stores

These are stores such as nuts, bolts, washers, screws, cork sheetings, insulating tape which are held in bulk by the RCOC platoon. As these items are continuously required in workshops, each workshop platoon holds a two-week supply. Replenishment is made by a bulk issue from the RCOC platoon which accounts for the stores and redemands as required. Procedure for issue and control of expendable stores in a static location is detailed in EME Manual Management J 171.

## 513. Operation

The operation of the RCOC platoon is explained in detail in CAMT 12-1, RCOC in the Field, Chapter 12. Reference is also made to the RCOC Stores Supply in Chapter 8 of CAMT 11-2, RCEME in the Field.

# SECTION 3—INSPECTIONS, MODIFICATIONS AND RECOVERY

## 514. Inspections

- a. Inspections in the field are essential and a continuing commitment. The requirement for inspections is determined by the operations of the formation. Because of the tactical situation a separate system of inspection must be established for:
  - (1) units in the combat zone;
  - (2) units in the formation logistics area;
  - (3) aircraft.
- b. Workshop commanders are required to supply personnel from their units for inspection of formation equipment. Schedules are normally arranged by the formation EME. In order to produce effective inspection and establish proper schedules suitable for unit commanders, close liaison is necessary between formation EME, workshop commander and unit commanders.
- c. The responsibilities and procedures for inspection in the field are set out in Chapter 7 of CAMT 11-2, RCEME in the Field.

## 515. Modifications

- a. Authorized modifications to equipments are issued as EME Manual instructions under the applicable equipment section. Occasionally modification instructions are issued on authority of the formation commander in which case the next higher RCEME headquarters must be notified of the details.
- b. Modification kits are procured from Ordnance in accordance with EME Manual Management H 504.
- c. Modifications in the field are usually completed on a program basis during quiet periods. This gives the workshop commander time to procure the necessary parts and enable him to use his manpower economically.

- d. Emergency modifications may be required in-situ or in unit lines in order to fulfil operational commitments. The Forward Repair Platoon is suited for doing in-situ modifications.

#### 516. **Recovery**

All aspects of recovery in the field are described in detail in Chapter 3 of CAMT 11-2, RCEME in the Field.

### SECTION 4—COMPARISON WITH BRITISH AND US REPAIR SYSTEMS

#### 517. **British Repair System**

The British repair system is analogous to the Canadian system and differences are minor and are due to the larger organization of the British Army. This section therefore will deal with the US repair system as compared to the Canadian and British system.

#### 518. **United States Repair System**

- a. SOLOG Agreement No 75 equates the level of repairs as follows:

<i>United States</i>	<i>Canada/Britain</i>
Second Echelon	First Line
Third Echelon	Second Line
Fourth Echelon	Third Line
Fifth Echelon	Fourth Line

- b. The US Army repair or maintenance system is divided into three categories and five echelons, consisting of:

<i>Category</i>	<i>Echelon</i>
Organizational	First and Second
Field	Third and Fourth
Depot	Fifth

- c. *Organizational Maintenance*

Organizational maintenance is that authorized for, performed by and the responsibility of a user unit for its own equipment. This maintenance normally consists of inspection, cleaning, servicing, preserving, lubricating and adjusting as required and may also include minor parts replacement not requiring highly technical skills or expensive, complicated or bulky test equipment or tools. Organizational maintenance usually incorporates the first and second echelons as follows:

##### (1) *First Echelon*

First echelon maintenance is that performed by the user, wearer or operator of the equipment. It includes the proper care, use, operation, cleaning, preservation, lubrication and such adjustment,



minor repair, testing and parts replacement as prescribed by pertinent technical publications and tool and parts lists;

(2) *Second Echelon*

Second echelon maintenance is that performed by specially trained units provided for that purpose in the user unit. Appropriate publications authorize additional tools and the necessary parts, supplies, test equipment and skilled personnel to perform maintenance beyond the capabilities and the facilities of the first echelon.

d. *Field Maintenance*

Field maintenance is that authorized for and performed by designated maintenance activities in direct support of user units. This category normally is limited to repair and/or replacement of unserviceable parts, assemblies or components. Field maintenance usually incorporates the third and fourth echelons as follows:

(1) *Third Echelon*

Third echelon maintenance is that authorized by appropriate technical publications to be performed by specially trained units in direct support of user units. Third echelon maintenance may be performed by user units by specific agreement between the commanders of the direct support unit and the using unit. A third echelon unit normally provides maintenance support to a number of user units. Third echelon maintenance is authorized a larger assortment of parts and assemblies and more precise tools and test equipment than is provided for organizational maintenance. Third echelon maintenance units repair components and assemblies and perform repairs for lower echelons within limits imposed by specific authorizations of tools, parts and test equipment. They also support the lower echelons by providing maintenance assistance, mobile repair crews and repair parts as required.

(2) *Fourth Echelon*

Fourth echelon maintenance is that authorized by appropriate technical publications to be performed by units organized as semi-fixed or permanent shops to support lower echelons of maintenance. Fourth echelon maintenance is authorized a larger assortment of parts and additional and more precise tools and test equipment than the lower echelons. It may furnish mobile repair crews or reinforcing elements to lower echelons when required. The principal function of fourth echelon maintenance is to repair assemblies, components and end items

for return to user units or to maintenance float stock. When necessary, fourth echelon maintenance may assist in the repair or modification of overflow work from third echelon maintenance organizations for return to lower echelons.

e. *Depot Maintenance*

Depot maintenance is that required for the major overhaul or complete rebuild of assemblies, components and/or end items. Such maintenance is intended to augment stocks of serviceable equipment or to support lower levels of maintenance by the use of more extensive shop equipment and personnel of higher technical skill than are available in organizational or field maintenance activities. Depot maintenance usually embraces fifth echelon, which is the highest echelons of maintenance.

(1) *Fifth Echelon*

Fifth echelon maintenance is that authorized for the rebuild of major items, assemblies, accessories, tools and test equipment, and the fabrication of parts peculiar to the support of such rebuild. It normally supports supply on a rebuild and return to stock basis. Limited fabrication of parts, components or special test and handling equipment not readily available from procurement is authorized to support emergency requirements for stock or rebuild. Fifth echelon operations are scheduled so as to employ production and assembly line methods wherever practicable. Fifth echelon is authorized to perform technical calibration services beyond the capability of field maintenance facilities in accordance with implementing directives of the head of the technical service.

f. *Maintenance Principles*

- (1) Repairs are performed in the lowest echelon of maintenance consistent with the nature of the repair, authorized repair parts, tools and test equipment, time available, skill of personnel and the tactical situation. However, no echelon of maintenance performs work of a higher echelon at the expense of accomplishing its own assigned functions.
- (2) Higher echelons of maintenance perform the maintenance functions of lower echelons when required by practical considerations. Evidence of abuse or lack of preventive maintenance is reported to the proper commander for corrective action to insure strict compliance with maintenance instructions.

- (3) Maintenance by cannibalization is prohibited except:
  - (a) in extremely urgent cases in forward areas where contact with a supporting unit cannot be quickly established;
  - (b) as may be specifically authorized by the head of the technical service assigned depot maintenance responsibility for the equipment concerned or assigned maintenance responsibility when depot maintenance is the responsibility of another department;
  - (c) when an item is uneconomically repairable or otherwise classified as disposable.
- (4) Evacuation of unserviceable material:
  - (a) In general, unserviceable material which is beyond the maintenance capability of an organization or which cannot be repaired within the time available, is evacuated to or repaired on site by the next higher maintenance organization.
  - (b) Field maintenance units receive unserviceable equipment and repair it for return to user units or to local authorized maintenance float or utility stocks.
- c. Excess, unserviceable, economically repairable equipment is reported, disposed of, or shipped to designated maintenance or supply installations in accordance with instructions issued by the technical service.

#### SECTION 5—REQUIREMENT FOR SPEED AND CUSTOMER SERVICE

519. The repair system of the workshop is organized so that maximum speed and efficiency can be given to the repair of all equipment. Workshop commanders are required to maintain careful control of priorities of repair and the utmost effort is required to keep repairs moving quickly in order to satisfy unit and operational demands. Where repairs require more time than is permitted, equipment is backloaded so that the unit may receive an immediate replacement. If these replacements are curtailed or restricted, the repair time limits may be increased accordingly.

520. Customer service is essential and equipment must be repaired and returned to the unit as quickly as possible. Parts not available in stock must be immediately demanded from the Ordnance Field Park. The production supervisor must expedite the completion of work. To accomplish this there must be continual follow-up action such as procurement of parts and movement of equipment within the various sections of the workshop.

521. In peace time, parts not available must be pre-ordered with a priority assigned in accordance with Chapters 400 to 402 of the Canadian Army Manual of Ordnance Services, Volume 2.

## SECTION 6—EQUIPMENT BEYOND REPAIR AND CONDEMNATION OF EQUIPMENT

### 522. **Equipment Beyond Repair**

#### a. *Beyond Economical Repair (BER)*

- (1) When equipment which has been accepted for repair is subsequently found to be beyond economical repair, the R&I Office is notified. The Request for Services is endorsed in accordance with EME Manual Management K 010 and returned to the workshop office.
- (2) Parts 2 and 3 of copy of the Request for Services are completed, showing final disposal and write-off of the equipment and passed to the unit.
- (3) The equipment is tagged BER and returned to RCOC in peace time and scrapped in wartime.

#### b. *Beyond Local Repair (BLR)*

- (1) When an equipment is beyond local repair, but the work is within RCME capabilities, the work is reallocated through RCME channels.
- (2) In peace time such equipment remains on unit charge and on completion of repairs is returned to the unit. In Canada, field workshops backload to their supporting static workshops.
- (3) In war, equipment beyond local repair is backloaded to third or fourth line workshops. Equipment repaired in third or fourth line workshops is written-off unit charge and returned to Ordnance for re-issue.

### 523. **Condemnation**

- a. Condemnation of equipment in peace time is governed by EME Manual Management H550 and H551.
- b. In war, equipment is condemned either in-situ, or in second and third line workshops. The condemned equipment is placed in the Backloading Park and backloaded by a recovery company for subsequent delivery to RCOC.

## SECTION 7—USE OF DRIVERS AND GUN CREWS IN WORKSHOPS

524. Drivers and gun crews usually accompany their equipment to the workshop where they can assist with repairs and service the equipment before returning to their unit. They can be used to advantage in the preparation of an equipment for repair, ie draining oil and anti-freeze, removing batteries or assemblies. They can be of assistance when manhandling or moving equipment, carrying parts and tools and for testing their equipment after it has been repaired.

525. Personnel so attached do not provide an administrative problem. In operations the workshop should always carry a reserve of rations in order to cope with additional men. These drivers and gun crews are subject to normal workshop discipline and while attached to the workshop can be used as the workshop commander sees fit.

## SECTION 8—SAFETY

### 526. General

- a. A field workshop handles many items of bulky, heavy equipment and is required to store and use potentially dangerous substances. Normal maintenance operations entail the use of tools and equipment which can result in injury to personnel and damage to equipment if improperly used. Misuse of equipment or neglect of safety precautions in handling material can result in injuries and accidents which may seriously hamper the operations. An effective safety program is essential to the successful accomplishment of the unit's mission.
- b. The safety program must encompass all phases of operations. All personnel must be thoroughly indoctrinated in the proper handling of materiel; the safety procedures to be exercised when using tools, machinery or vehicles and the precautions necessary when handling or storing hazardous materials. Personnel must be impressed with the importance of constant vigilance to detect potential hazards, encouraged to take remedial action to reduce or eliminate the dangers and be required to report all accidents or safety hazards promptly.

### 527. Safety Organization

- a. A safety program has but one objective: the prevention of accidents.
- b. The implementation of the program necessitates the establishment of a safety organization, consisting of a safety officer who is responsible for the supervision and co-ordination of all safety activities within the unit and a safety committee consisting of section supervisors and foremen.

### 528. Safety Rules

- a. An effective safety program will depend on the proper and continuous adherence to the following basic rules of accident prevention:
  - (1) create and maintain active interest to assure that all personnel participate in the program;
  - (2) assemble all the information bearing on accident occurrence so that the causes may be determined;

- (3) analyze all facts bearing on accident occurrence and on the basis of these facts, take corrective action to prevent future accidents.
- b. Active participation on the part of all unit personnel is the most important element of the safety program.
- c. If accidents occur despite precautions taken to avoid them, it is necessary to determine:
  - (1) who was injured or what was damaged;
  - (2) the time and place the injury or accident occurred;
  - (3) the severity and the cost (in manpower and matériel) of the injury or accident;
  - (4) the nature of the accident or injury;
  - (5) the specific unsafe act committed, if any, and the reasons why;
  - (6) the nature of any specific mechanical or physical hazard, if one existed;
  - (7) whether any tools or equipment being used were defective or improperly used;
  - (8) recommendations to prevent recurrence.
- d. Corrective action must be supplemented by constant vigilance on the part of supervisors to ensure that familiarity with operations does not lead to contempt for the safety practices involved.

#### 529. **Safety Plan**

- a. A few of the elements that should be included in the unit safety plan are:
  - (1) the corps designation of a safety officer and committee and publication of their duties;
  - (2) the procedure to be followed in reporting accidents or safety hazards (to include promptness and completeness in reporting all accidents or injuries no matter how slight as well as reporting all possible hazards no matter how insignificant they may seem);
  - (3) the necessity for reporting equipment damage in order to prevent injuries to personnel from continued use of the equipment;
  - (4) the investigation of all injuries or accidents to determine their causes and to take corrective action to prevent recurrence;
  - (5) the special precautions to be taken in the storage and handling of ammunition, gasoline, and other hazardous materials, including the designation and marking of storage areas;
  - (6) the location and use of first aid and firefighting equipment;
  - (7) the designation of firefighting and first-aid teams;
  - (8) the location, care and use of special clothing and equipment;

- (9) the procedures for and frequency of accident prevention inspections;
- (10) the procedures for submitting suggestions;
- (11) the procedures for disseminating information on new techniques or equipment;
- (12) the need for observing safety practices off the job;
- (13) the provision for regularly scheduled safety meetings.

### 530. Duties and Responsibilities of Personnel

- a. *Commander.* It is the unit commander's responsibility to ensure that all activities of his unit are conducted in accordance with established safety rules. He is also responsible for determining the cause of accidents and for seeing that corrective action is taken to prevent their recurrence. When no existing safety rule applies or when a deviation from an established safety rule is desired, it is his responsibility to submit a request, including full particulars and detailed plans and specifications, to the appropriate headquarters for decision.
- b. *Safety Officer.* He is one of the unit officers detailed by and responsible to the unit commander for:
  - (1) establishment and supervision of the safety organization;
  - (2) preparation of the safety plan and establishment of safety procedures;
  - (3) the performance of accident prevention investigation;
  - (4) establishment and maintenance of continued interest in and the success of all phases of the safety program.
- c. *Section WOs and NCOs.* WOs and NCOs exercise direct daily supervision over the men. In their daily contacts with men on the job they are in a position to personally witness working conditions and the hazards to which the men are exposed. The WOs and NCOs are persons through whom the full force and effect of all accident prevention measures find application in daily operations.

### 531. Special Precautions

- a. Personnel must understand the proper use of tools and equipment to avoid injuries, loss of efficiency and damage to material or facilities. Information may be obtained from appropriate technical manuals, instructions and bulletins. Prior to undertaking the disassembly or repair of items which are unfamiliar to the tradesmen, he should refer to the appropriate publication in order to determine any special precautions that should be taken.

- b. The properties and characteristics of gasoline make it one of the greatest potential hazards to the safety of any organization. The precautions to be taken in handling gasoline are covered in the S&T Manual and the Army Works Service Fire Safety Manual.
- c. Some of the items used by a field workshop are potentially hazardous to personnel and equipment because of their chemical properties. Included in this group are items which:
  - (1) result in explosions or explosively rapid burning when in a gaseous state (eg anhydrous ammonia);
  - (2) are toxic or produce toxic fumes which result in damage to body tissues when inhaled, ingested or brought into contact with the skin (eg carbon tetrachloride);
  - (3) have a corrosive effect on matériel and can seriously damage body tissues on contact (eg sulphuric acid); EME Manual Management V061 describes the precautions to be taken with each substance.
- d. In a field workshop the safety aspects of the following operations must also be stressed:
  - (1) *Operation of forklift trucks.* The capacity of the truck must not be exceeded. It should be loaded so as to permit good operator vision.
  - (2) *Vehicle Operation*
    - (a) Special care must be taken when backing a vehicle. A man in front of the vehicle and in full view of the vehicle operator should give directions.
    - (b) In the operation of wreckers, operators must be sure that the wrecker boom, cables and hooks are in serviceable condition. They should be inspected before each operation.
  - (3) *Welding.* All welders must use the safety equipment provided, consider the safety of other personnel when welding and not be allowed to operate welding equipment in areas where sparks might result in fires or explosions or where personnel may receive eye burns from the arc.
  - (4) *Storage and packaging.* Boxes and packages must be sturdily constructed. In storage operations, stacks must be stable. Heavy or bulky boxes or packages should not be lifted by one man.
  - (5) *Ropes, winches and cables.* These should be inspected before each use to determine serviceability. Before using these items, their capacity must be considered with respect to the load they carry.



## CHAPTER 6

### DEFENCE

#### SECTION 1—USE OF GUARDS AND PIQUETS

##### 601. General

A good working site often will be difficult to defend because of its size. A workshop exists to do productive work and it is essential that the defence scheme should not absorb a large number of men. Every soldier is armed with a personal weapon and must be able to use it effectively in defence of his unit.

##### 602. Guards and Sentries

- a. The number of guards and sentries employed will depend on the likelihood of ground attack, sabotage and theft. Under good conditions day guards may be dispensed with other than a regimental policeman posted at the workshop entrance. All ranks must be suspicious of and challenge strangers.
- b. At night there should be three sentries on duty, one each from the administrative platoon, the vehicle platoon and the weapons and electronics platoon. The beats and duties of the sentries must be co-ordinated so that the whole workshop area is covered.
- c. At least one officer, warrant officer or senior NCO should be awake and on duty at all times. There should be an orderly officer roster including officers and warrant officers and an orderly sergeant's roster including staff sergeants and sergeants.
- d. Air sentries may be necessary if parachute attacks are likely.
- e. All guards and sentries must know:
  - (1) the general location of the enemy;
  - (2) the extent of the ground they have to watch;
  - (3) the position of own and flanking posts;
  - (4) the names of prominent landmarks;
  - (5) the procedure to be followed if anyone approaches the position;
  - (6) the alarm signals and code words used within the unit and formation logistics area;
  - (7) the procedure to be followed on the approach of a helicopter.

##### 603. Piquets

- a. Piquets are required for fire fighting and security guard duties.

- b. A fire piquet consisting of an NCO and at least five men, together with a  $\frac{3}{4}$ -ton truck, should be on call at all times to fight fires which may occur in the unit. The orderly officer supervises the piquet and details additional help required.
- c. Fire piquets should be changed at least once a week.
- d. Fire drills should be carried out at regular intervals.

## SECTION 2—DEFENCE AGAINST ATTACK

### 604. General

- a. The responsibility for the security and defence of the unit rests with the commander. He must plan and effect measures to ensure physical security of the unit and its facilities and to defend them against attack. He normally receives guidance and instructions pertinent to development of the unit's defence plan from formation headquarters.
- b. Before planning the best way to defend his workshop, the commander must know the kinds of attack with which he may have to deal. They will depend upon a number of circumstances including terrain, the type of enemy and the air situation. The probability of raids or local attacks will be affected by the nature of the operation in which the formation is engaged. The workshop commander must obtain all available tactical information and then plan his defence to meet the most likely threats.
- c. The unit defence plan must be flexible and all-inclusive since every situation cannot be foreseen. The plan should assign definite responsibilities and provide for the strongest defence that can be effected with personnel and weapons of the unit. It should be simple, clear and easily understood by all personnel. Generally, one basic plan should be provided to include alternate courses of action for meeting various types of attack.
- d. The principles of overall defence at the formation level are contained in CAMT 1-8 The Infantry Brigade Group in Battle, Part 1, which should be read in conjunction with this chapter.

### 605. Forms of Attack

#### a. General

Although the unit may be attacked by enemy ground forces, the commander's primary concern is likely to be defence against attacks by aircraft, guerrillas and partisans.

#### b. Air Attack

Protection against air attack must be by passive defence. The best defence is to avoid detection by screening the

unit from enemy view and to disperse facilities to minimize damage. Protective means include slit trenches for individuals, revetments and exits for vehicles and other equipment and shelters with overhead cover for workshop headquarters and communication equipment. The workshop commander should study the terrain to locate features such as caves, steep hills or cuts. He should examine the condition of structures such as mines, tunnels and other underground installations which may be used by the unit.

c. *Ground attack*

Defence against ground attack is best accomplished by the use of an outpost warning system, prepared defensive positions and a mobile reserve. The plan should encompass:

- (1) warning and alarm systems;
- (2) sectors of defence assigned to the various sections of the workshop;
- (3) familiarization of personnel with defence positions and duties;
- (4) use of slit trenches;
- (5) personnel at workshop headquarters for use as reserve troops;
- (6) hasty fortifications covering vulnerable avenues of approach;
- (7) camouflage discipline;
- (8) co-ordination with adjacent units;
- (9) perimeter defence;
- (10) frequent rehearsals and inspections of the defence;
- (11) destruction of matériel (authority from the formation headquarters);
- (12) fire piquet;
- (13) medical evacuation plan (in conjunction with formation headquarters).

d. *Rehearsals*

Plans for defence should be rehearsed frequently to allow each individual to become proficient in accomplishing his assigned tasks. The duties of key personnel should be made clear and alternates for them should be selected.

e. *Active Defence*

A defence plan for the operating area should consider fields of fire, observation points, routes of approach and obstacles. Active defence measures should include co-ordination with commanders of adjacent units for mutual

support and assistance. Co-ordination is important in the assignment of sentry posts, formation of patrols and determination of areas of responsibility.

(1) *Perimeter defence*

A well-organized and effective perimeter defence guards against surprise. Each man in the defence perimeter should be instructed in his mission, zone of fire and area of responsibility.

(2) *Warning system*

An adequate warning system is the key to defence of the unit area and includes observation posts, trip flares, sentry posts and patrols to visit them and the areas beyond these posts which are likely locations for enemy observers.

(3) *Obstacles*

Natural obstacles such as streams, swamps, ravines and dense woods near the defence perimeter should be improved with barbed wire, booby traps and roadblocks. These obstacles should be covered by small arms fire.

f. *Passive Defence*

Since the unit commander has a limited number of weapons and personnel for active defence, he must rely heavily on passive defence measures. These deny the enemy information and observation of unit operations and reduce casualties and damage in the event of attack. For conventional ground or air attack, these measures include camouflage, concealment and dispersion which are dealt with in CAMT 7-1, CAMT 2-70 and US Field Manual FM 5-20.

606. **Available Weapons**

- a. In addition to the personal weapons issued to all ranks, a workshop holds about eleven light machine guns, seven anti-tank weapons and seven anti-aircraft machine guns. Some of these are sited to form the framework of the defence and to cover the most likely approaches; others may be held in reserve.
- b. The armament of tanks undergoing repairs can be of assistance in the defence of a workshop, providing ammunition is available, although their siting must of necessity be governed by the need to have them easily accessible for repair. As the normal crew will not always be available, some of the workshop personnel should be trained to use the armament of any type of tank that is likely to be in the workshop for repair.

- c. The speed and armour of modern aircraft are such that the use of small arms anti-aircraft fire is uneconomical and can lead to men exposing themselves and disclosing their positions unnecessarily. The use of small arms will be limited to medium and light machine guns engaging attacking aircraft when it is clear that the position has been detected and the aircraft is attacking it.

#### 607. **Layout of Defences**

- a. Particular attention should be given to the defence requirements in Chapter 4, Section 5. Guidance in the layout and preparation of a defensive position is contained in CAMT 7-45, Infantry Section Leading and Platoon Tactics.
- b. At least a quarter of the unit should not be committed to perimeter defence but held centrally to reinforce any seriously threatened sector. They should be sited to defend the heart of the position against any force that may penetrate the outer defences. In a large village or a widely dispersed site, it may be advisable to allocate a few vehicles for the use of this reserve.
- c. When making his detailed plan, the workshop commander should study the workshop layout from the enemy point of view and decide how he himself, in the role of pilot, saboteur or patrol leader, would organize an attempt to destroy or damage this workshop.

#### 608. **Special Factors Affecting Workshop Defence**

- a. The defence of a workshop is affected by the following factors that are not generally applicable to all defended areas:
  - (1) The effective strength of the unit is likely to vary from day to day. The number of equipment casualties with crews is subject to continual change and the strength is also affected by the movement of detachments. The defence plan must be reviewed regularly so that the best use is made of the men available.
  - (2) A field workshop is normally sited close to other units in the formation logistics area. There will be a co-ordinated plan for the defence of the area in which the workshop is given a specific role; it may sometimes be ordered to detail troops and vehicles to form a mobile anti-paratroop detachment. The workshop commander must ensure that his defence plan is co-ordinated with those of the adjacent units and that there is no danger of friendly troops firing at each other in error.
  - (3) The workshop area may be too large for adequate defence by the men and weapons available. The commander must decide therefore how best he can

defend it. His plan will include the headquarters, the vehicle repair area, the RCOC platoon and any other sections that can be covered by the available resources.

#### 609. Orders and Instructions

- a. Formation standing orders are issued to cover such matters as:
  - (1) standing alarms and all-clear signals;
  - (2) the policy for engaging enemy aircraft;
  - (3) air sentries;
  - (4) defence against nuclear, biological and chemical warfare.

#### 610. Use of Dug-outs and Shelters

It is unwise to allow the men to become "cellar minded" so that they are unable to concentrate on their work when in the open. When the air situation is seriously adverse, however, the improvement of morale attained by eating and sleeping and possibly working below ground level can be very marked.

#### 611. Conduct and Discipline of Personnel

- a. The workshop commander must ensure that the routine conduct of all ranks is such as to minimize casualties in the event of a surprise raid or ground attack. In particular:
  - (1) Men must be forbidden to wander about in the workshop area at night. Neglect of this rule tends to detract from the alertness of sentries, alternatively, it may lead to false alarms.
  - (2) All ranks must keep their protective masks, steel helmets, weapons and ammunition close at hand when at work and carry them wherever they go. Moreover, they must be given practice alarms until their automatic reaction to an alarm by day or night is to get quickly into their positions with their weapons and equipment ready to meet the attack.
  - (3) Officers and senior NCOs will sleep in their platoon areas where they are suitably placed to deal with emergencies.
  - (4) Concentrations of large numbers of men around the cookhouse must be avoided. Platoon cooking may sometimes be necessary for this reason, even though it has administrative disadvantages.

### SECTION 3—NUCLEAR, BIOLOGICAL, CHEMICAL DEFENCE

#### 612. Responsibilities

The defence plan must contain precautions for personnel to take in the event of nuclear, biological or chemical (NBC) attack.

The unit commander will accomplish this by having certain officers, warrant officers or senior NCOs trained in NBC defence measures. They will instruct other workshop personnel in these matters. Proficiency will be ensured through periodic testing.

#### 613. NBC Defence Plan

- a. NBC agents can be delivered by aircraft, artillery shells, missiles and ground troops. Unit personnel must be trained to recognize these attacks and be familiar with the steps necessary to minimize their effects. The NBC plan should include:
  - (1) a warning system to indicate the types of attack;
  - (2) provision for and duties of unit NBC personnel, fire guards and security guards;
  - (3) provision for training personnel (CAMT 2-10, Individual Training, Nuclear, Biological and Chemical Warfare, 1959);
  - (4) a plan for inspection of equipment received if contamination is suspected;
  - (5) methods for segregating contaminated material;
  - (6) designation of a separate area for contaminated equipment;
  - (7) maximum use of available underground facilities or special construction, if feasible, to provide protection from nuclear attack;
  - (8) procedures to be followed in the event of NBC attack;
  - (9) responsibilities of unit personnel;
  - (10) a plan for decontamination of personnel and equipment.
- b. A Sample Standing Operating Procedure for NBC defence is contained in Annex H.

### SECTION 4—AREA DAMAGE CONTROL

#### 614. Control Measures

- a. Area damage control includes provisions for minimizing the immediate effects of mass destruction attacks or natural disasters and for precluding secondary damage to personnel, equipment and installations or enemy followup action such as guerrilla or airborne attack. Area damage control measures include those taken prior to, during and following such attack or disaster.
  - (1) Prior measures are:
    - (a) adequate planning;
    - (b) organizing, equipping and training damage control personnel;
    - (c) organizing, training and equipping an area defence force;

- (d) dispersion and concealment;
  - (e) use of natural cover or any protection afforded by the terrain.
- (2) The measures taken during and immediately following a mass destruction weapons attack or natural disaster include:
- (a) control of personnel and traffic (military and civilian);
  - (b) action against guerrilla or airborne attack;
  - (c) fire prevention and firefighting;
  - (d) first aid and evacuation of casualties;
  - (e) protection against nuclear, biological and chemical hazards to include evacuation from heavily contaminated areas;
  - (f) emergency supply of food, clothing and water;
  - (g) disposal of unexploded ammunition;
  - (h) initiation of salvage operations and the clearance of debris and other obstructions from roads and installations so that normal operations can be resumed.
- (3) The workshop commander must survey his operations and make plans to lessen the possibility and effects of an attack using all means at his disposal. He should plan the action during and following the attack in order to perform the unit's mission. The unit may be required to furnish squads whose functions include rescue and removal of casualties, first aid and decontamination.

#### 615. Area Damage Control Plan

A guide to preparing an Area Damage Control Plan is contained in CAMT 1-36 Staff Duties in the Field, Chapter 5, Section 11.

#### 616. Demolition

Demolition is a formation responsibility, accomplished on orders of higher headquarters. The unit commander should plan for the rapid and thorough destruction of buildings, equipment, supplies and records when so directed. The plan must make provision for rendering unserviceable all equipment and supplies that might be used by the enemy and should include priorities of demolition and methods of destruction. To make cannibalization by the enemy impossible, each equipment operator must be familiar with the essential parts of the equipment to be destroyed. Procedures for destruction of certain equipments are outlined in CAMT 11-4, Recovery Technique, Chapter 13.

### SECTION 5—USE OF ALARMS, SIGNALS AND CODE WORDS

#### 617. Alarms

- a. There are two types of alarms—the Local Alarm and the General Alarm.
- b. The Local Alarm is sounded when an attack against the area occurs without warning. The General Alarm is



sounded when the area has been forwarned of an attack.

- c. The Local Alarm positions are prepared first and are sited in the immediate vicinity of working and sleeping areas. On hearing the Local Alarm signal, or on being subjected to any form of attack, every man moves to his defensive position, prepares to defend himself and his immediate vicinity and remains there until ordered to take other action.
- d. The General Alarm positions are manned only if there is sufficient time to do so without confusion. These positions are tactically sited and ten or fifteen minutes warning is required.
- e. Normally alarm systems are detailed by formation headquarters and are in effect for all units in the formation logistics area. Therefore the alarm system mentioned in this paragraph would only be used if no direction were received from higher authority.

#### 618. Signals

- a. The following signals, adopted for use by NATO (STANAG 2047) will be used within the confines of a workshop area:

##### (1) Local Alarm

- (a) Biological, — By percussion—rapid and continuous beating on any metal or any other object which will produce a loud noise, such as bells, metal triangles, iron railings, iron pipes, empty shell cases, mess tins, steel helmets, vehicle bodies etc.

Visual signal: donning of the protective mask followed by any agitated action to draw attention to this fact.

- (b) Air Attack — Continuous series of short blasts on a vehicle horn, whistle, bugle or other available wind instrument. Visual signal: Rapid crossing and uncrossing of the arms fully extended above the head.

- (c) Ground Attack — Series of long blasts on a vehicle horn, whistle, bugle or other available wind instrument.

Visual signal: None unless prescribed by formation headquarters.

(d) All Clear

— A continuous sustained blast on a vehicle horn, whistle, bugle or other available wind instrument.

Visual signal: None, unless prescribed by formation headquarters.

(2) *General Alarm*

Verbal warning for any type of attack.

#### 619. Code Words

- a. A code word is a single word used to provide security cover for references to a particular classified matter or action.
- b. Normally code words are issued and controlled by formation headquarters and are used for a certain specific operation and/or time. Code words shall be changed at frequent intervals to avoid compromise.
- c. The principles governing the use of code words are set forth in CAMT 1-36 Staff Duties in the Field, Chapter 5.

### SECTION 6—REQUIREMENT FOR PRACTISING DEFENCE ALARMS

#### 620. General

The time and effort spent in practice alarms and standing-to must not hinder production unnecessarily. The relative priority of output and readiness for defence will vary from day to day with the conditions of war and the workshop commander must be practical and flexible.

#### 621. Exercises

- a. The logical time to practise defence alarms is during field training exercises. Slit trenches, defence posts and patrol areas should be set up during exercises to achieve realism.
- b. During formation training the workshop is under command of the formation commander and technical work will receive priority over unit defence training. The workshop commander should take every opportunity to practise his alarm system, particularly during an uneventful period in a formation exercise.

### SECTION 7—STANDING OPERATING PROCEDURE FOR DEFENCE

622. A sample Standing Operating Procedure for defence against ground or air attack is shown in Annex J.

## CHAPTER 7

### TRAINING

#### SECTION 1—UNIT TRAINING PROGRAM

##### 701. General

- a. Unit training programs are conducted under the authority of and in conjunction with the respective formation training plan.
- b. In peace time, the training program is detailed in The Annual Training Directive, published yearly by the General Staff (GS) and implemented by further directions from the formation headquarters and the command GS sections. The program is normally conducted in three phases:

Miscellaneous Training

Individual Training

Collective Training

##### 702. *Miscellaneous Training*

- a. Miscellaneous training is left to the discretion of command or formation headquarters. Individual training may be carried out during this period. During this phase, emphasis will be on the training of the workshop as an entity. The workshop must be trained and practised in:
  - (1) movement to a new site;
  - (2) setting up and working in the open;
  - (3) concealment, camouflage and dispersion;
  - (4) defence of the workshop;
  - (5) closing down a workshop site.
- b. Periodically the workshop should move out of camp or barracks and set up in the open. The aim should be to gain experience in living and working under field conditions. Normal work should be accepted and dealt with as in war. During this period there should be no attempt to introduce tactical training. It is intended as a time for exercise in the performance of normal productive work while separated from the amenities of good covered accommodation, static stores sections, permanent cookhouses, comfortable billets, offices and so on.
- c. The workshop must learn to move, set up shop, strike shop and move again, observing all the precautions for defence, concealment, camouflage and dispersion, which would be necessary in war. This kind of training can

be carried out by a series of 24-hour exercises held perhaps half a dozen times a year. Typical procedure on one of these exercises might be as follows:

- (1) The workshop commander reconnoitres a suitable site and arranges for use of the area.
  - (2) The workshop commander gives the unit a few days notice of the exercise, but does NOT disclose where it is to be.
  - (3) A few hours before moving out, the commander informs the second-in-command where the new site is to be located. The movement drills as shown in Annex D are set in motion.
  - (4) The workshop moves to the site and sets up for normal work, in accordance with the instructions detailed in Annex B. Vehicles must be unloaded to the extent required in a normal move. Shelters should be erected, cookhouses opened, and the unit should be prepared to work.
  - (5) Subsequent events can be varied in every exercise to practise the unit in the field training it requires most. One or more of the following may be included:
    - (a) a raid by enemy troops or by saboteurs;
    - (b) a night move back to barracks;
    - (c) a sudden night move to another site;
    - (d) independent movement back to barracks by platoons, using separate and devious routes;
    - (e) movement in column to practise convoy driving and defence.
- d. The system of training set out above separates the technical and tactical aspects as far as practicable and enables the commander to concentrate on his unit's activities one at a time. It has been shown by experience that this method causes less dislocation than that of moving the workshop out for a week at a time on several occasions during the year and attempting to do technical work and tactical training at the same time.

### 703. Individual Training

- a. During this phase of training, emphasis is placed on the following aspects of training;
  - (1) preparation and study for officers promotion examinations (Standards are contained in CAMT 2-85, How to Qualify);
  - (2) preparation and study for junior and senior NCO qualification (Standards are contained in the Canadian Army Manual of Individual Training Standards MITS;
  - (3) trades and specialist training (Specifications are contained in CAMTS);

- (4) survival training (Training subjects are set out in GSI 61/8 and CAMT 2-91 Survival Operations);
- (5) annual refresher training (Standards are contained in MITS).
- b. All personnel must maintain a high standard of physical fitness compatible with their age, PULHEMS profile and employment in accordance with CAO 10-5. To be effective, physical training must be progressive, continuous and closely supervised. The program should, whenever practicable, be carried out in duty hours and should include periodic tests to check levels of achievement.

#### 704. **Collective Training**

- a. The collective training period will be used for practising and developing collective skills in preparation for field operations. Camouflage, concealment and defence exercises would be suitable at this time.
- b. The latter half of the collective training period normally consists of formation concentrations held under the direction of command and formation headquarters. During these concentrations, a workshop is called upon to perform its role as in war.

#### 705. **Training Program**

A typical annual unit training program excluding the formation concentration period is described in Annex K.

### SECTION 2—PERIODIC REFRESHER TRAINING

#### 706. **Training Officer**

An officer of the workshop, usually the second in command, is made responsible for carrying out the training program, and recording the results in the soldier's documents. His assistant will normally be the company sergeant-major.

#### 707. **Weapon Training**

Before undergoing training in battlecraft a soldier should be skilled in the use of his personal weapon and any other weapon that he may be called upon to use, such as grenades, LMGs and the machine guns of tanks. Weapon training must have high priority and all ranks should be capable of firing, stripping, cleaning and handling the weapons held by the workshop.

#### 708. **Map Reading**

- a. Ability to read a map is important to every man who may be placed in charge of a vehicle or detailed to drive it. NCOs and men in a field workshop must be skilled in map reading. Care must be taken that the instruction is practical. A man must be taught to find his way by

day and night to a location of which he knows only the map reference. He must be trained to read a small scale map accurately and to use his speedometer for measuring distances. Such training must be progressive, imaginative and carefully organized.

- b. Training in map reading should be supplemented by instruction in other subjects which may help a man to find his way, such as:
  - (1) divisional and brigade group organization;
  - (2) identification signs and numbers of formations and units;
  - (3) the marking of formation axes, supply points, petrol points, dressing stations, etc.

#### 709. Drill

Drill is a recognized basis for discipline and some drill should be included in any military training program. In peace time the preparations for annual inspections and ceremonial occasions normally ensure a reasonable standard of drill, but other opportunities must be sought to ensure that the standard is maintained. All ranks in all trades should take part in drill parades.

#### 710. First Aid

All ranks should be trained in the fundamentals of first aid. A few men should be given special instruction by arrangement with the medical services.

#### 711. Nuclear, Biological and Chemical Warfare (NBCW)

Personnel must be trained in survival and the steps to be taken to keep the number of casualties to a minimum. Troops must know the effects of nuclear, biological and chemical agents and how to combat them. A sample standing operating procedure for defence against NBCW is contained in Annex H.

#### 712. Military Law

All personnel should be made aware of the contents of Queen's Regulations (Army). Extracts should be published in unit orders and certain articles read to the men at least once a month. Soldiers should be informed of service offences and related punishments. They should know the powers of various commanders and they should be familiar with their rights and the safeguards under military law.

### SECTION 3—REINFORCEMENT TRAINING

713. Training of reinforcements is the transitional period of training between the Corps School or static workshops and the operational field workshop. Reinforcements for a field unit, though trained for their roles as tradesmen, must learn the tactical as well as the productive aspects of operations in the field. A short indoctrination course, conducted by the CSM, should be given to all reinforcements.

714. Reinforcements must be informed of the organization and role of the unit and that of the formation as a whole. The following are some items that should be stressed to a reinforcement:

- a. A description of the unit defence plan and alarm system.
- b. His place in the unit defence plan.
- c. His action on alarms.
- d. His action in case of fire.
- e. Name of senior to whom he reports.
- f. The roles of the other units in the formation.
- g. Workshop procedures, where they differ from static procedures.
- h. Procedures regarding leave, pay, welfare.
- i. The DOs and DONTs of a field unit in an operational role, eg, carrying of arms, smoking, lights at night, etc.
- j. Security procedures.
- k. Restricted areas.
- l. Any peculiarities of the locality.

715. The points mentioned in paragraph 714 normally appear in unit orders, however, reinforcements must be given this information immediately they arrive as it may take a few days or weeks to acquire the information from unit orders.

716. A "hand out" should be prepared so that the reinforcements can keep a ready reference in their quarters and refer to it until they become proficient in the operational procedures of the unit.

717. A tour of the unit and the administrative area in which it is located is most beneficial and should be included in the reinforcement training schedule.

718. Those reinforcements who have not reached the maximum trade group in their trades should be phased into any trades training program that may be underway at the time of their arrival.

#### SECTION 4—TRADES TRAINING

##### 719. General

The productive efficiency of a workshop depends on the technical skill of its tradesmen. Technical training must be conducted throughout the year on a priority basis. It must not interrupt the tactical operation of the unit, nor must it receive priority over emergency repair programs. Trades training should be intensified during quiet periods.

##### 720. Courses and Instruction

- a. Full use must be made of any upgrading and equipment courses that are organized under formation, Army Headquarters or command arrangements. The workshop commander can also do much with the resources available in the unit. For example, he can:
  - (1) ensure that men are given experience in all functions of their trades;

- (2) arrange for officers and senior other ranks to give talks and demonstrations on technical theory and practice;
  - (3) encourage private study through correspondence courses or the use of local facilities;
  - (4) take a personal interest in the work of individual men, emphasizing the importance of trade skill;
  - (5) ensure that the tools used are of good quality, adequate in quantity, properly used and carefully maintained.
- b. In-job training must cover all functions of the trades as defined in the specifications which are maintained by all workshops. Reference books are held in unit reference libraries. The procedure for indenting and control of reference material is contained in EME Manual General R 100 and R 200.

#### 721. Trade Tests

- a. The authorities qualified to conduct trades tests and the procedures used are contained in the Canadian Army Manual of Trades and Specialties.
- b. It is helpful for the officer in charge of technical training, usually the workshop officer, to keep a book with a page for each tradesman showing:
  - (1) civilian experience;
  - (2) present trade qualification;
  - (3) date and result of last trade test;
  - (4) reasons for previous failure, if any;
  - (5) what functions are required for the next higher trades group;
  - (6) type of work on which employed and for how long.
- c. He should arrange to review each man's trade qualifications at regular intervals. Some form of reminder system is necessary to indicate when a case is next due for review.
- d. Before a man is allowed to take a trade test, he should be given all available information on the scope of the test as shown in the trade specification. Each item of the test needs to be examined against the background of the training he has received. It is obviously bad for morale and a waste of time to detail a man for a trade test when he clearly has no chance of success. On the other hand, a doubtful candidate who is keen to try should seldom be held back.

#### SECTION 5—SPECIALIST TRAINING

722. Specialist training is usually arranged by the Director of Electrical and Mechanical Engineering through the Director of Military Training. During operations this training would be arranged



through the formation staff. Candidates are selected for specialist training by Army Headquarters but units can request specialist training for certain personnel.

723. Specialist training includes:
- a. Guided missile courses.
  - b. Pilot training.
  - c. Aircraft maintenance courses.
  - d. Management courses.
  - e. Post graduate university training.
  - f. Technical staff courses.
  - g. General staff courses.
  - h. Special staff courses.
  - i. Language courses.
  - j. Training with industry.

#### SECTION 6—EQUIPMENT FAMILIARIZATION

##### 724. General

- a. Training courses on complex equipment are usually arranged by the Director of Electrical and Mechanical Engineering through the Director of Military Training in Canada and the senior Electrical and Mechanical Engineer of the formation in war. Candidates are normally selected by Army Headquarters but units may submit applications and names of personnel to formation headquarters.
- b. During operations field workshops will be called upon to conduct familiarization courses on new equipment. This training will be planned in accordance with the workload, the time available and the operational importance of the equipment.

##### 725. Equipment Courses at RCEME School

Particulars on the aim, scope, duration and dates of equipment courses held at RCEME School are contained in the Canadian Army Manual of Courses and the Courses Schedule and Allotment of Vacancies, copies of which are held by all RCEME units.

##### 726. Miscellaneous Equipment Courses

- a. There are other equipment courses conducted by industry. Commands and formations are requested to submit nominations for them. Some examples of these courses are:
  - (1) *In Canada*
    - courses on various types of cameras;
    - Rolls Royce Diesel Engine Courses;
    - Robin-Nodwell Over-Snow equipment courses.
  - (2) *In Britain*
    - training on tellurometers;
    - repair and maintenance courses on Gyro Compass assemblies.

(3) *In the United States*

courses on various types of guided missiles and rocket launchers;  
 courses on aircraft repair, both fixed wing and helicopter;  
 Infrared Weapons Sight training.

**727. Commanders Responsibility**

Equipment familiarization courses are mandatory when new equipments are introduced into the Army. These courses are also useful for unit tradesmen who are not in regular contact with the equipment. It is the workshop commander's responsibility to see that tradesmen are given the required equipment training.

### SECTION 7—COURSES FOR UNIT TECHNICAL OFFICERS AND/OR TECHNICAL ADJUTANTS

728. Refresher training on workshop procedure, liaison duties and inspections, including the Ordnance spare parts aspect of workshop operations, should be made available to unit technical officers and technical adjutants in the formation. This training could be in the form of a one or two day refresher course or a week of actual in-job training in the different operations of the workshop.

729. These officers should be invited to attend any familiarization courses on new equipment with which they may become involved.

### SECTION 8—COURSES ON MAINTENANCE FOR REGIMENTAL OFFICERS

730. Maintenance courses for regimental officers normally are arranged by the staff. These courses should be conducted when the unit is in a static location and should be integrated with the refresher training of technical officers and technical adjutants.

731. The courses should include familiarization with equipment and workshop procedure so that regimental officers will become familiar with workshop problems and the conditions under which RCEME works. Unit quartermasters as well would benefit from the workshop procedure aspect of the course.

### SECTION 9—FORMATION TRAINING

732. Formation training is conducted usually during the summer months under the arrangements of commands and formation headquarters. At this time, field workshops function in their normal repair and recovery role in the formation.

733. Several formation exercises are carried out during the period. The tactical and technical aspects of training will be combined and the workshop commander will strive to get the best work out of his unit and to meet the demands made upon it. At the same time, he must take every opportunity to exercise the unit in whatever form of field training is required most.

**SECTION 10—TRAINING FOR PARTICULAR TASKS****734. General**

- a. There are many special training requirements in a field workshop over and above those mentioned in the previous sections of this chapter. The most important of these are:
  - (1) selection and training of junior NCOs;
  - (2) training of drivers and motorcyclists;
  - (3) training personnel for fire fighting.

**735. Selection and Training of Junior NCOs**

To earn the respect of subordinates, a junior NCO must demonstrate leadership qualities, have a sound knowledge of his trade and be an above average soldier. The workshop commander must select potential NCOs as early as possible in their careers and take action to correct weaknesses. If their trade knowledge is below standard, the platoon commanders should be encouraged to provide the necessary instruction or practice. If military knowledge is lacking they should attend a junior leader or junior NCO course.

**736. Training of Drivers and Motorcyclists**

- a. In a field workshop there are two important training requirements for drivers and motorcyclists. They are:
  - (1) improving the skill of those whose trade is driving;
  - (2) training others to drive.
- b. Training drivers regularly employed as such is simple. For others, careful planning and organization is required if opportunity and enthusiasm for learning to drive are to be created without serious interruptions in production. In the training of additional drivers or motorcyclists, men of the RCOC parts platoon and the unit cooks should not be overlooked.
- c. It is of value to include some elementary fault finding in the training syllabus. If every man driving a vehicle or motorcycle has a working knowledge of how to locate and identify faults, delays on moves are reduced.

**737. Training Personnel for Fire Fighting**

- a. Personnel for fire fighting duties are not provided in the workshop establishment. Tradesmen therefore must be trained in the proper procedure for fighting fires and in the operation of fire fighting equipment.
- b. The most suitable NCOs must be selected as supervisors and arrangements made, either directly with other units or through the formation commander, for them to be given the necessary specialist training. These NCOs can then instruct other unit personnel in fire fighting duties.

## CHAPTER 8

### ADMINISTRATION

#### SECTION 1—STANDING ORDERS

##### 801. General

- a. Unit standing orders foster good order and discipline by ensuring that an individual can quickly grasp the organization and role of the unit and the part he has to play. They are a valuable source of instruction to be followed in the event of fire, accident, theft and other emergencies. They also provide the means for the workshop commander to delegate many of his responsibilities. They must be regularly reviewed to ensure that they are both comprehensive and current.
- b. Good standing orders can forestall many difficulties that might beset a unit. In themselves they are not enough; the unit commander must ensure that they are understood and obeyed.

##### 802. Contents of Unit Standing Orders

- a. The more uniform the layout of standing orders within RCME units, the more easily understood they are likely to be. A specimen layout, suitable for use in a field unit, is included at Annex L. For convenience, the orders are sub-divided into three parts as follows:
  - (1) SECTION 1—ADMINISTRATION
  - (2) SECTION 2—OPERATIONS
  - (3) SECTION 3—WORKSHOPS.
- b. In many instances, Standing Operating Procedures can be referred to in Standing Orders and attached as annexes.

#### SECTION 2—RESPONSIBILITIES OF SECTIONS OF THE ADMINISTRATIVE PLATOON

##### 803. Orderly Room

- a. The Orderly Room staff is responsible for the office work of the field workshop. The Administrative Officer is directly responsible to the workshop commander for the efficient operation of the orderly room and the control and discipline of the clerks employed therein. The following are the responsibility of the orderly room staff:
  - (1) preparation of Unit Standing Orders, Part 1 Orders, Part 2 Orders or Casualty Returns and any other orders or instructions of an administrative nature;
  - (2) custody, security and maintenance of regimental books (other than institute accounts), records, documents and files;

- (3) preparation of correspondence;
- (4) receiving and distributing incoming correspondence;
- (5) personnel matters regarding:
  - (a) pay and allowances
  - (b) documentation
  - (c) appointments, promotions and postings
  - (d) messing
  - (e) medical
  - (f) leave
  - (g) honours and awards
  - (h) postal
  - (i) health and welfare
  - (j) maple leaf services
  - (k) clothing and equipment (in conjunction with QM Stores).
- (6) procurement of an adequate stock of maps to meet the needs of all officers, section heads, recovery and forward repair team personnel;
- (7) preparation and maintenance of logs, message registers, battle boards and map boards.
- (b) A comprehensive list of administrative points that require systematic checking is contained in Annex M.

#### 804. Messing

- a. The messing staff is under the control of the Administrative Officer and is responsible for:
  - (1) the preparation and distribution of nutritionally balanced meals;
  - (2) complete utilization of the scales of rations;
  - (3) effective use of the messing cash allowances where applicable;
  - (4) ensuring that rations are of the best quality;
  - (5) the adequate security and storage of rations;
  - (6) maintaining proper hygiene and sanitation in and around kitchens and mess halls;
  - (7) the proper maintenance of kitchen equipment;
  - (8) preparation of weekly menu sheets.

#### 805. Transport and Maintenance

- a. The staff of this section is responsible for the maintenance and efficient and economical operation of unit transport. The Administrative Officer is responsible for the organization and operation of this section.
- b. The transport and maintenance section must ensure that:
  - (1) only authorized persons are allowed to ride in unit vehicles;

- (2) the number of passengers do not exceed that for which the vehicle was designed;
- (3) the cab capacity for personnel is not exceeded;
- (4) personnel do not ride on the running boards, sides or tailboards of vehicles;
- (5) the regulations governing the carrying of civilians and the use of vehicles for recreational and personal transport are obeyed;
- (6) the regulations governing the transport of ammunition, POL and explosives are obeyed;
- (7) only qualified and authorized personnel drive unit vehicles;
- (8) there is a proper system of booking-in and booking-out vehicles;
- (9) vehicles, tools, equipment, parts and POL are properly maintained, accounted for and made secure;
- (10) vehicles are loaded properly;
- (11) fire and accident prevention is practised;
- (12) a vehicle disposition board is kept up to date;
- (13) rules of the road are practised and local speed limits are obeyed;
- (14) march discipline is maintained;
- (15) all documents pertaining to the section are completed properly.

#### 806. Quartermaster Stores

- a. The quartermaster staff is responsible, under the control of the Administrative Officer, for the receipt and accounting, the care, custody, control, maintenance and proper distribution of all stores and equipment on charge to the unit.
- b. These duties include:
  - (1) indenting for clothing, personal equipment, arms, ammunition, stationery, technical and barrack stores according to unit requirements and entitlements;
  - (2) making arrangements through RCOC for laundering and dry-cleaning of public stores;
  - (3) indenting for rations, POL, fuel and miscellaneous RCASC supplies;
  - (4) inspection of works and buildings, including barracks or tentlines, noting all damages and deficiencies;
  - (5) preparing barrack damage vouchers and requests for Army Works Services;
  - (6) conducting stock taking required by the unit and by RCOC;
  - (7) preparation and submission of CAFS 2149s for unit equipment;

- (8) supervising kit inspections and reporting deficiencies;
- (9) servicing tools and issuing them to unit tradesmen;
- (10) holding personal kit of personnel on leave, course, in hospital or absent without leave;
- (11) collecting and returning salvage and used containers to RCE, RCASC or RCOC as applicable;
- (12) the proper preparation and maintenance of accountable unit documents as detailed in the Ordnance Manual.

#### 807. **Regimental Duties**

- a. The regimental duty staff is responsible to the Administrative Officer for the duties, parades, welfare and discipline of the men in the unit.
- b. The duties of the Company Sergeant Major detailed in Chapter 2, Section 3 describe the functions and responsibilities of the personnel in the section.

### SECTION 3—RESPONSIBILITIES OF PLATOONS FOR ADMINISTRATION

#### 808. **General**

It is normal practice for some administrative duties to be controlled centrally while others are delegated to platoons. The division between them is not rigid and will vary with circumstances but the arrangement described in the following paragraphs provides a good workable distribution.

#### 809. **Stores Accounting**

- a. Although the workshop commander remains responsible for all stores, he delegates to the RCOC parts platoon officer the responsibility for all stores held and issued by the parts platoon and for the platoon's own vehicles and stores.
- b. The administrative officer keeps certain types of stores in the unit QM compound but he issues others to platoons who are made responsible for them. They are accounted for on distribution cards. A suggested division follows:

##### (1) *Held in QM Stores*

- (a) certain types of unit stores
- (b) POL, (other than that held by the Transport Section)
- (c) clothing and necessities
- (d) solid fuel
- (e) rations
- (f) barracks stores not in use.

**(2) Held by Platoons**

- (a) remainder of unit stores
  - (b) remainder of barrack stores
  - (c) technical machinery, standard recovery vehicles and certain tools.
- c. The principle of division (2) above is that platoons are issued with stores for which they have both exclusive and frequent use. For example, it is normal for special vehicle tools to be held by the Vehicle Platoon, but hurricane lamps are held centrally.
- d. The quartermaster holds master ledgers for the unit, while platoon commanders keep sub-ledgers showing the stores issued to their platoons. The workshop commander, or the administrative officer on his behalf, should make frequent spot checks of platoon sub-ledgers and store-keeping procedures.

**810. Personnel Administration**

- a. Platoon commanders are responsible for:
  - (1) recommending personnel for upgrading;
  - (2) recommending personnel for promotion;
  - (3) individual welfare.
- b. In certain circumstances, platoon cooking and messing may be necessary. The platoon commander then has the additional responsibility for controlling the allocation of rations and the standard of messing.

**811. Boards of Inquiry and Audit Boards**

- a. The workshop commander should distribute the responsibility for boards among his officers in the fairest possible way. Platoon commanders are normally called upon to preside over or act as members of audit boards, boards of inquiry, summary investigations, etc.
- b. Unit audit boards should be convened monthly. The proceedings are normally sent to the formation headquarters together with any comments that the commanding officer has to make on unusual variations in the state of an account. A satisfactory system for appointing audit boards and one which is preferred by the RCAPC is to appoint an audit board for four to six months at a time with the members rotating every two months thereby ensuring continuity and maintaining a high standard of audit.

**SECTION 4—PARADES AND INSPECTIONS****812. Parades**

- a. Daily parades, conducted by the CSM, should be held prior to the commencement of work each morning. All personnel should attend these parades.



- b. The men will be inspected for dress, deportment and cleanliness.
- c. These parades will muster the men and be the basis of absentee reports, sick reports, etc.
- d. Additional parades will be conducted as ordered by the formation commander.

### 813. Inspections

- a. Inspection of men, barracks or tent lines should be carried out at least once a week by the workshop commander. He should be accompanied by the administrative officer, the CSM and RQMS.
- b. The workshop commander, with the workshop officer and workshop sergeant-major should inspect all sections of the workshop once a week to ensure that personnel are doing their jobs satisfactorily and that standards of economy, tidiness and cleanliness are maintained.

### SECTION 5—REPORTS AND RETURNS

814. All field units are required to submit reports and returns to their formation headquarters. Such reports and returns are detailed in formation orders or requested periodically as the situation demands. Some of the routine reports and returns which may be required are listed below:

#### a. *Daily Replenishment Forecast*

This report lists the daily requirements for rations, ammunition, POL, ordnance stores, supplies and special items. The form is local, conforming to the requirements of the formation concerned.

#### b. *Vehicle Casualty Return*

This is a daily return of vehicles off the road showing the number of casualties by type, ie, X, Y, Z and BR. This return is submitted in message form in the manner prescribed by the respective formation.

#### c. *Daily Casualty and Strength Return*

This is a return showing casualties, officers (by name) and men (by number) for the previous 24 hours. The form is local conforming to the requirements of the formation.

#### d. *Daily Casualty Report (CAFB 1657)*

This report lists all casualties, including injuries, sickness and self-inflicted wounds. A copy of this report is retained for the unit war diary.

#### e. *Records and Pay Report (CAFB 1658)*

This report, submitted as required, reflects casualties of a non-battle nature which require entry in Part 2 Orders.

f. *Weekly Field Return*

This return is a record of establishment positions showing surpluses or deficiencies of officers and men. From this return, replacements are procured and establishments brought up to strength. A copy of this report is retained for the unit war diary. The form is local, conforming to the requirements of the formation.

g. *Daily Strength Return*

This return shows the actual unit strength during peacetime training exercises in the field. It constitutes a vital document in the ration accounting procedure. The form is local, conforming to the requirements of the formation.

## SECTION 6—COMMANDING OFFICER'S INSPECTION

### 815. Check on Administration

- a. The workshop commander has to balance military, technical and administrative efficiency and in order to do so, he must know the state of his unit in each respect. The best basis for sound administration is a comprehensive, carefully worded and up-to-date set of administrative standing orders that leave no doubt as to what is required and who is responsible for seeing that it is done.
- b. The commander himself has two main checks on administration. The first and most important is personal contact with his subordinates to ensure that they know their duties and are meeting with no serious difficulties in carrying them out. The second is by requesting reports at fixed intervals, usually monthly, to certify that certain things have been done.
- c. Annex M contains a list of items that should be made the subject of monthly reports to be rendered by specific officers, warrant officers or NCOs. These reports remind the individual concerned of certain duties that might otherwise be forgotten. Too many reports are bad as there is a risk of the workshop commander relying too heavily on an impersonal check. No amount of paper can substitute for regular personal supervision.

### 816. Commander's Inspection Check List

In order to inspect and check the unit's organization, administration, and operation, a workshop commander should have an itemized check list which will indicate to him where the unit is operating efficiently and where it needs improvement. Annex N contains a detailed list of items which the commander should check whenever he carries out a unit inspection.

**SECTION 7—CHANGE OF COMMAND****817. General**

- a. A careful and systematic handover between commanding officers is necessary to determine:
  - (1) the state of equipment and stores of the unit;
  - (2) that the necessary financial statements and clearance certificates have been obtained.
- b. The procedure for change of command of a unit is contained in CAO 55-2.
- c. Points to be checked on a handover are listed in Annex O.

**SECTION 8—STANDING OPERATING PROCEDURES  
FOR ADMINISTRATIVE TASKS****818. General**

- a. Standing Operating Procedures (SOPs) are essential for the efficient operation of the workshop and set forth those instructions the Commanding Officer desires to make routine. Not only can a job be accomplished more easily and more quickly by means of such procedures but new personnel reporting to the unit can become familiar with and integrated into unit operations much more quickly. To achieve their aim, SOPs must be comprehensive but brief.
- b. Unit SOPs will be influenced by and may be originated as a result of formation SOPs.
- c. Some of the administrative procedures which should be detailed in orders as Standing Operating Procedures are shown in the following paragraph:

**819. Standing Operating Procedure Administrative Tasks**

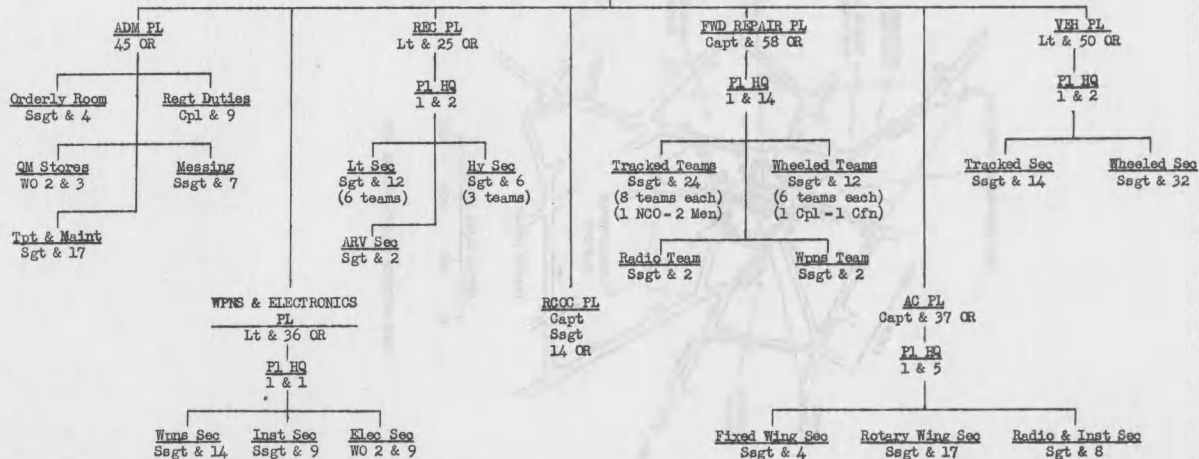
- a. The following may be the subject of separate SOP's:
  - (1) Orders groups
  - (2) Office organization (showing duties of clerks)
  - (3) Correspondence, files, documents, registers
  - (4) Security of correspondence, files and documents
  - (5) Security of cabinets, offices and buildings
  - (6) Preparation of war diaries or annual historical reports
  - (7) Filing system
  - (8) Personnel proceeding on course; posting rotation and release
  - (9) Library
  - (10) Upkeep of logs and battle boards
  - (11) QM procedures, ie ledgers, invoices
  - (12) Workshop procedures, ie production charts, back-loading, parts ordering.

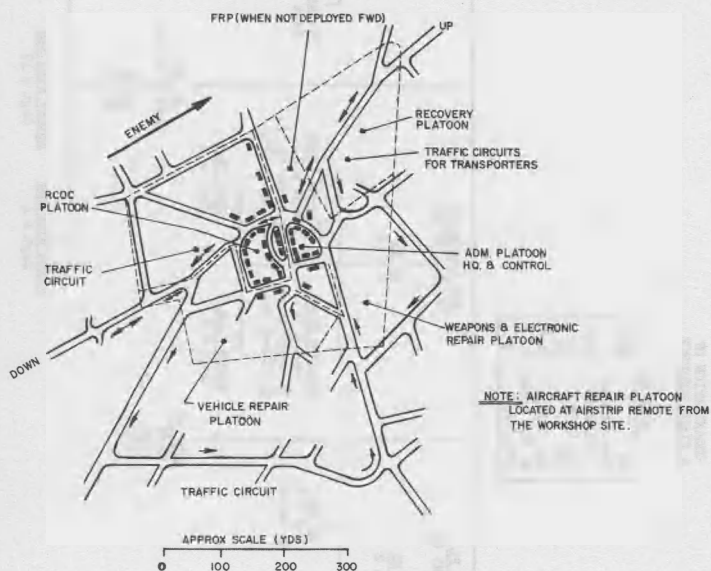
ORGANIZATION OF  
A FIELD WORKSHOP

STRENGTH: Officers 10  
Other Ranks 273

WKSP HQ

CO	Major
Inspections & Liaison	Capt
Adm Offr	Lt
CSM	WO 2
Com Office	Capt
Mr Veh Techn	WO 1
NCOs/Men	5

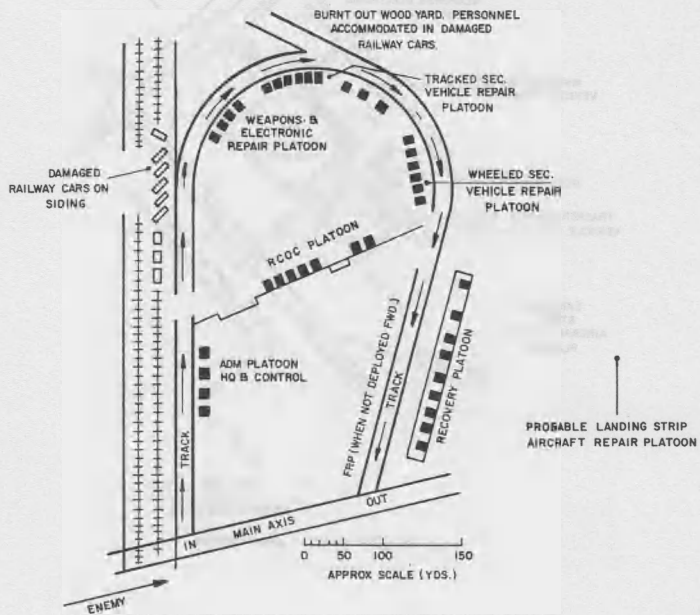




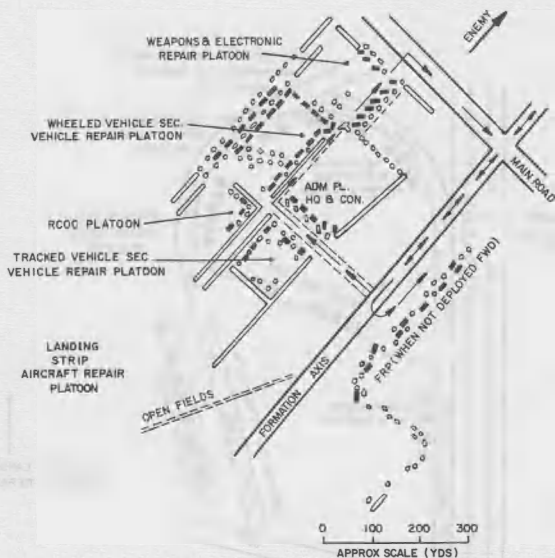
FIELD WORKSHOP LAYOUT - VILLAGE SITE

A. H. H. H.

## PLATE 3



FIELD WORKSHOP LAYOUT - FACTORY AREA.



FIELD WORKSHOP LAYOUT — OPEN COUNTRY

## SPECIAL EQUIPMENT VEHICLES IN A RCEME FIELD WORKSHOP

Type	Platoon	Brief Description of Load
Truck, Utility, 1/4 ton, 4x4, w/adaptor kit, electronic equipment	FRP	Wireless set
Welding Shop, Truck Mounted, 200 amps, 1/4 ton, 4x4, w/e	FRP/Veh Pl	200 amp arc welder towing Welding Shop, Tlr Mtd, Acetylene 1/4 ton
Truck, Panel, 3/4 ton, 4x4, w/electronic repair adapter kit	FRP/Wpns and Electronic Pl	Test and inspection instruments, power supply unit. Tows tlr with 10 KW generator set.
Truck, Panel, 3/4 ton, 4x4, w/adaptor kit, electronic equipment	FRP	Stowage racks, work benches. Tows tlr with 3 KW generator set
Crane, Truck Mounted, front, 3/4 ton, 4x4, cargo, w/winch	Veh/Ac Pl	
Shop Equipment, Inspection and Repair, Truck Mounted, RCEME, 3/4 ton, 4x4, cargo, w/winch	Adm Pl	Vulcanizer, bench grinder, drills, engine analyser set, impact tool, air compressor, battery charger. Tows tlr with 5 KVA generator set.
Shop Equipment, Sheet Metal working, Truck Mounted, 2 1/2 ton, 6x6, cargo	Veh Pl	Bench grinder, collapsible water tank, oxy and acet bottles, air compressor. Tows welding shop tlr, 300 amp.
Truck, Cargo, 2 1/2 ton, 6x6, w/battery charging adapter kit	Veh Pl	Battery charging set and accessories. Tows tlr with 10 KW generator set.
Armament Machine Shop, Truck Mtd, Load H, 2 1/2 ton, 6x6, cargo, w/winch	Wpns and Electronic Pl	Grinders, Power saw, electric drills. Tows tlr with 10 KW generator set.
Automotive Machine Shop, Truck Mtd, Load C, 2 1/2 ton, 6x6, cargo, w/winch	Veh Pl	Grinder, sparkplug cleaner and tester, air compressor, 30 ton press. Tows machine shop tlr Load D.
Automotive Machine Shop, Truck Mtd, Load E, 2 1/2 ton, 6x6, cargo, w/winch	Veh Pl	Brake and clutch reliner, sewing machine, brake drum lathe, vulcanizer. Tows tlr with 10 KW generator set.
General Office, Field, Truck Mtd, 2 1/2 ton, 6x6, van	HQ/Adm/RCOC Pl	Printing & Stationery, office machinery, equipment, files and documents.
Electronic, Repair Shop, Aircraft Truck Mtd, 2 1/2 ton, 6x6, van	Ac Pl (2)	Air compressor, drill, starting motor, signal generators, various electronic meters and test sets. Tows tlr with 10 KW generator set.
Instrument and Electrical Repair Shop, Aircraft, Truck Mtd, 2 1/2 ton, 6x6, van	Ac Pl	Bench drill, grinder, bench lathe, test panel, generators, test equipment, aerial film. Tows tlr with 10 KW generator set.
Welding and Sheet Metal Shop, Aircraft, Truck Mtd, 2 1/2 ton, 6x6, van	Ac Pl	Grinder, brake machine, forming machines, 10 ton press, two wh hand truck, sander.



## ANNEX A

Type	Platoon	Brief Description of Load
Truck, van, 2½ ton, 6x6, w/radio and line repair adapter kit	Wpns and Electronic Pl	Signal generators, various electronic meters, radio test set, air compressor, battery charger, drying oven.
Shop Equipment, Radar Maintenance, Truck Mtd, 2½ ton, 6x6, van, w/e	Wpns and Electronic Pl	Soldering kit, drills, tube tester, various meters. Tows tlr with 10 KW generator set.
Small Arms Repair Shop, Truck Mtd, 2½ ton, 6x6, van	Wpns and Electronic Pl	Bench grinder and drill, vices.
Armament Machine Shop, Truck Mtd, Load F, 2½ ton, 6x6, van	Wpns and Electronic Pl	Bench lathe, grinder, shaper, swing lathe.
Optical and Instrument Repair Shop, Truck Mtd, 2½ ton, 6x6, van	Wpns and Electronic Pl	Watchmaker's lathe, projection collimator, air conditioner, portable pedestal.
Instrument Repair Shop, Truck Mtd, 2½ ton, 6x6, van	Wpns and Electronic Pl	Lathe, bench grinder, drill press. Tows tlr with 10 KW generator set.
Shop Equipment, Automotive Electrical Repair, Truck Mtd, 2½ ton, 6x6, van	Veh Pl	Generator, distributor and starter testers, bench grinder, 10 ton press, bench drill, drying oven. Tows tlr with 10 KW generator set.
Automotive Machine Shop, Truck Mtd, Load A, 2½ ton, van	Veh Pl	Valve refacer, bench grinder, bench drill, power saw and lathe. Tows machine shop tlr Load B.
Truck Panel, ¾ ton (w/Adapter Kit, Electro Mechanical Repair)	Inst Sec	Special tools and test equipment for repair of all ATGM systems and training simulators. Tows tlr with 3 KW generator set.
Truck Panel, ¾ ton (w/Adapter Kit ATGM)	Electronics Sec	Special tools and test equipment for repair of IR equipments, NAVAID and miscellaneous electrical equipments. Tows tlr with 3 KW generator set

## SAMPLE

# STANDING OPERATING PROCEDURE FOR ENTERING AND LEAVING A WORKSHOP SITE

Date.....

## 1. Aim

The aim of this SOP is to describe the tasks required of unit personnel when entering and leaving a workshop site.

## 2. General

It is essential that the process of entering and leaving a workshop site should be carried out as a regular drill; the priorities and sequence are set out below:

## 3. Advance Party

- a. This will normally consist of one officer and driver, the CSM, a despatch rider, one junior NCO and one man from each platoon.
- b. The advance party will be responsible for initial route signing from the formation axis to the workshop entrance.
- c. The representative from each platoon will meet the leading vehicle of his platoon at the workshop entrance and lead the platoon into its location.

## 4. Main Body

- a. The main body will not halt on the road but will drive into the site even if some re-arrangement proves necessary later.
- b. A high standard of track discipline will be observed.

## 5. Priority of Tasks on Arrival

- a. Platoon commanders will see that the following tasks are carried out, as far as possible, in the priority given:
  - (1) get vehicles under cover somewhere and then make a quick appreciation of the platoon area; if suitable, get vehicles under cover at 50-yard intervals; if not suitable, report the situation immediately to the workshop commander or to the second-in-command;
  - (2) unload vehicles;
  - (3) connect up power supply;
  - (4) erect work shelters and penthouses;
  - (5) generally set up for work;
  - (6) report details of any missing vehicles to the commander or to the second-in-command;

## ANNEX B

- (7) ensure that vehicles are parked so that they can drive out without backing and turning;
- (8) ensure that trailers are arranged for easy coupling up;
- (9) camouflage all vehicles;
- (10) dig slit trenches near vehicles with the best possible field of fire for ground defence, or as ordered by the workshop commander;
- (11) despatch fatigue men, as required, to the company sergeant-major;
- (12) set up kitchen and messes;
- (13) report to the workshop commander for consideration of the over-all defence plan;
- (14) check that all vehicles are in good running order—report any defects to the second-in-command;
- (15) dig latrines and arrange urinals;
- (16) erect tentage and allocate billets;
- (17) erect fire points;
- (18) draw any accommodation stores necessary;
- (19) prepare ablution facilities;
- (20) ascertain, from the company sergeant-major, arrangements for water supply;
- (21) detail guards and sentries;
- (22) check all vehicles for POL.

**6. In Location**

- a. Platoon commanders will see that the following tasks are carried out:
  - (1) review vehicle camouflage each day;
  - (2) start up each vehicle at least once per day;
  - (3) ensure that track discipline is maintained.

**7. Priority of Tasks in Readiness for Moving Out**

- a. The following sequence of events will be followed in preparing to vacate a site:
  - (1) complete repairs to equipment if time permits;
  - (2) backload equipment where necessary;
  - (3) prepare equipment to be taken to new site;
  - (4) concentrate equipment that is to be left at present site and turn over to rear party.
- b. Platoon commanders will see that the following tasks are carried out, as far as possible, in the priority given below:
  - (1) ensure all vehicles are runners;

## ANNEX B

- (2) ensure drivers are available for all vehicles;
- (3) load vehicles (items required first at new site to be loaded last).
- (4) reel in power cables and signal line;
- (5) fill in trenches;
- (6) fill in latrines and swill pits not more than one hour before the move—mark foul ground;
- (7) tidy whole area;
- (8) collect all unit signs and return them to HQ Platoon;
- (9) remove camouflage on vehicles not more than 15 minutes before the section is due to move;
- (10) check that each driver has a route card and understands his convoy instructions.


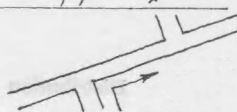
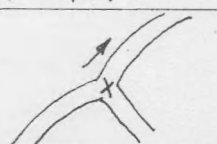
**8. Moving Out**

- a. Platoon commanders will see that following tasks are carried out:
  - (1) The platoon headquarters will remain open for work up to five minutes before time of move.
  - (2) No vehicle will move from cover until it is time for it to drive out and on to the road without stopping. There will be no 'forming up' either inside or outside the area.

Commanding Officer  
Signature Block

**Distribution**

## SPECIMEN ROUTE CARD

From: 514310 T RD				To 717418 Plaitford (Woods)	
Ref. Sheet 131 $\frac{1}{50,000}$ M.P.H. 18				M.I.H. 15 V.T.M. 10	
Gen Dir	Mlge	Time	Map References	Directions	Diagrams
	3.0	0810	551328	Bridge Over RR Left Fork	
	1.5	0805	524327	Turn Right	
	0	0800	514310	SP X	

READ ROUTE CARD FROM BOTTOM UP

**SAMPLE**  
**STANDING OPERATING PROCEDURE**  
**UNIT MOVE**

Refer to CAMT 2-90, Road Movement  
Formation Standing Operating Procedures  
CAMT 11-3 Chapter 3  
CAMT 1-31 Staff Duties in the Field, Chapter 5  
STANAG 2154

Date .....

**1. Aim**

The aim of this SOP is to outline the procedure to be followed and the responsibilities of workshop personnel for tactical and administrative movements made by this unit.

**2. Procedure Prior to Movement**

- a. A warning order will be issued prior to any move so that work sections will have time to dispose of jobs by completing repairs, evacuating the equipment or preparing for movement to the new area. (A separate SOP should be issued showing the procedure for evacuation or preparation of equipment).
- b. On receipt of a warning order from formation headquarters, the Commanding Officer will call an 'O' Group. The following personnel will attend:
  - (1) all officers;
  - (2) workshop sergeant-major;
  - (3) company sergeant-major;
  - (4) quartermaster-sergeant;
  - (5) warrant officers or Sr NCOs in charge of platoons or sections.
- c. All personnel attending the 'O' group will be in possession of note books and maps.
- d. Timings for cessation of work, loading and moving out will be notified. Platoon commanders will be prepared to inform the Commanding Officer of the status of re-repairs in their section, ie. numbers to be repaired, back-loading facilities required, etc.
- e. Location of new site will be notified.
- f. Personnel will be detailed for the reconnaissance party (time permitting), the advance and rear parties. Platoon commanders will be prepared to submit names of personnel for these parties.
- g. Timings for a move out and the routes of reconnaissance, advance and main parties will be given.

## ANNEX D

- h. Personnel and equipment will be loaded as indicated in sub-paragraph 2 m. The following instructions, regarding loading, will be obeyed:
  - (1) recovery platoon and transport section will make available sufficient wreckers to load heavy assemblies;
  - (2) personnel will not ride in trailers;
  - (3) personnel will keep steel helmets, small packs and personal weapons immediately available;
  - (4) sufficient spare parts and tools for roadside repairs for a ..... mile route will be available on wreckers at the rear of the column;
  - (5) all parties will obtain and load sufficient POL for a ..... mile route;
  - (6) fuel tanks will be topped up and full gasoline cans will be carried by each vehicle;
  - (7) platoon commanders will report to the CO when ready to move.
- i. Platoon commanders will ensure that vehicles and weapons are checked for serviceability prior to move.
- j. Platoon commanders will ensure that camouflage nets are readily available and in good repair.
- k. Platoon commanders will ensure that drivers know the proper order of march and the route to be taken. Assistant drivers will be assigned to each vehicle whenever possible.
- l. During tactical moves columns will not be formed prior to the move. Each driver will know which vehicle he is to follow and will take up his position on the move. In administrative moves columns will be formed in march order prior to the move.
- m. Composition of unit parties:
  - (1) *Reconnaissance Party*  
Personnel and vehicles as detailed at 'O' Group;
  - (2) *Advance Party*  
Personnel and vehicles as detailed at 'O' Group;
  - (3) *Main Body*  
(Here list the order of march—including personnel and vehicles. A guide for loading, will be found in the unit war establishment.)
  - (5) *Rear Party*  
Personnel and vehicles as detailed at 'O' Group.
- n. Individual vehicles will be marshalled on the basis of their locations in the new area, ie, those vehicles which

**ANNEX D**

will be required to move farthest into the new area should be placed nearest the head of the column.

- o. Marked maps and route cards will be issued to each driver.
- p. The CO will inform formation headquarters of the time the workshop will close, when the workshop will cease to accept work in the old area and the tentative time of opening in the new area. (Refer to Annex B of this manual).

**3. Order of March**

(Refer to Chapter 3, section 2)

**4. Duties of Reconnaissance Party**

- a. The reconnaissance party will:
  - (1) proceed to the new area and select suitable sites for the various platoons and sections;
  - (2) when selecting a site, look for;
    - (a) hard standings
    - (b) sheltered accommodation if possible
    - (c) good road access from the formation axis
    - (d) a well concealed and easily defended area.
  - (3) mark the selected platoon areas;
  - (4) rendezvous with the advance party.

**5. Duties of Advance Party**

- a. The duties of the advance party are:
  - (1) signing the route from the dispersal point, or formation axis, to the new location;
  - (2) preparing a suitable entrance and exit from the approach road or track so that all types of vehicles can move freely into and out of the site without manœuvring;
  - (3) planning the new layout in detail, from the general location of each sub-division of the workshop to the position of individual vehicles;
  - (4) marking separate traffic circuits;
  - (5) signing platoon and section areas;
  - (6) clearing the area of brush, obstacles, mines;
  - (7) digging latrines and refuse pits;
  - (8) accepting and inspecting any equipment casualties that have been left in the new location;
  - (9) providing a guide at the dispersal point or rendezvous to direct the main body on arrival;
  - (10) guiding vehicles off the approach road and into the site as quickly as possible;



## ANNEX D

- (11) preparing a provisional plan for defending the site;
- (12) during night moves, marking the routes into the new site with white tape; guides should wear white arm bands;
- (13) monitoring the area for radiological contamination.

6. **Control During Movement**—(Refer also to CAMT 10-3 Traffic Control, CAMT 2-91 Road Movement, and STANAG 2154)

a. *Grouping*

- (1) If four or more vehicles from a unit are to move, they will be grouped in packets of four to eight vehicles with two minute intervals between packets. Less than four vehicles will be considered "free runners".
- (2) An officer or NCO will be in charge of each packet.
- (3) Motorcycles may be allotted to assist a number of packets.

b. *Speed*

- (1) Unless otherwise ordered, speeds will be as detailed in sub-paragraphs (2) and (3).
- (2) By night or when flying conditions are such that aircraft may not operate effectively against vehicles, the maximum speed must not exceed 20 miles per hour. If road conditions permit, and full lights are in order, it may be possible to increase this speed limit.
- (3) By day, speed will depend on the conditions of the road and will normally not exceed 40 miles per hour.

c. *Density*

It is important to use the road to its maximum capacity. The distances between packets will be determined by the state of roads, enemy air activity and the cover available. As a general rule the densities will be as follows:

- (1) During daylight the distances will not be less than 1,000 yards between packets.
- (2) During darkness or when conditions prevent effective enemy air activity the packets may be closed to 70 vehicles per mile.
- (3) The distance, day and night, between vehicles within packets, will not be less than one yard per mile per hour (eg 30 yards if packet is travelling 30 miles per hour).

d. *Marking of Head and Tail of Columns*

Each unit, or when a move table is in use, each serial or unit, will mark the:

- (1) FIRST vehicle with a blue flag;
- (2) LAST vehicle with a green flag.

e. *Halts*

- (1) For moves taking less than three hours, there will be no road halts, nor will halts be made when units are within 25 miles of the forward defence localities. In all other cases the normal halts of ten minutes, at ten minutes to each even clock hour, will be observed. Columns containing tanks may halt for twenty minutes. Halts of one hour will normally be ordered for meals after six hours running.
- (2) When vehicles halt they will clear the road and where possible be parked under cover. This means getting right off the roads into fields, villages or small woods. When it is impossible to clear the road, the packet commander will:
  - (a) close up the vehicles of his packet nose to tail so as to present the smallest possible target,
  - (b) post sentries for traffic control at the front and rear of each packet,
  - (c) post an air sentry,
  - (d) instruct men with machine guns to fire at attacking aircraft,
  - (e) erect camouflage nets at halts exceeding 10 minutes duration.

7. **Duties During Movement**

(Refer to Section 1, Chapter 3, of this manual)

a. Duties of personnel are assigned as follows:

- (1) CO will control the movement of the column, report closing times to formation headquarters and co-ordinate movement of the column with other columns using or crossing the unit's route.
- (2) Platoon commanders will control movement of their respective platoons and:
  - (a) continually check and correct vehicle distances, speed, driver techniques and discipline,
  - (b) periodically check and correct the distance between his platoon and platoon ahead,
  - (c) report accidents, obstacles and vehicle casualties to the CO,
  - (d) ensure proper maintenance of vehicles is done at halts.

## ANNEX D

- (3) Drivers will maintain the prescribed distance and speed and:
    - (a) service and maintain their vehicles at the prescribed times,
    - (b) at halts, move their vehicles as far to the right hand side of the road as possible and in the event of vehicle fault, fall out to the right hand side of the road, direct the remainder of the column around his vehicle and await the arrival of the recovery section,
    - (c) at halts exceeding 10 minutes duration, he will erect camouflage nets.
  - (4) Assistant drivers, when detailed, will:
    - (a) follow the route by using the marked map,
    - (b) change over with the driver at intervals on the route,
    - (c) act as road guards to aid other traffic around the column when halted.
  - (5) Guides or platoon representatives will direct unit vehicles into the new area. They will know the composition of each element of the column and remain at the entrance to the new area to await the arrival of their respective sections.
  - (6) Platoon commanders will have vehicle casualties repaired or picked up by the recovery wreckers. Roadside repair time is limited to 30 minutes.
  - (7) After completing his mission, the officer in charge of the rear party will move his party on the prescribed route using the same procedure as the main party.
- b. Communications during the march will be by the use of motorcyclists.
  - c. Hand signals, as described and illustrated in the Manual for Drivers (Wheeled) and CAMT 11-4, Recovery Technique, Annex F, will be used.
  - d. The following procedures will be followed in the event of an accident involving a unit vehicle: (This could be in the form of another SOP)
    - (1) The driver will follow the procedure outlined in the Manual for Drivers Part VII (or state "Unit Part 1 Orders" or "Unit Standing Orders" or "Standing Operating Procedure No .....").
    - (2) The platoon commander will report the accident to the commanding officer.
    - (3) The driver will complete Driver's Report of Vehicle Accident (CAFC 795).

## ANNEX D

- (4) No one will make statements concerning responsibility or liability of the Canadian Army.
- (5) The convoy officer will make as complete an investigation as possible under the circumstances.
- e. In the event of a vehicle breaking down, the following procedure will apply:
  - (1) every effort will be made to clear it off the road;
  - (2) the driver will immediately display a YELLOW flag, indicating that he is in difficulty;
  - (3) the driver will stand behind his vehicle and direct oncoming traffic around it;
  - (4) the first following vehicle will report the breakdown to the next traffic point or the casualty will wait for recovery services at the end of the column;
  - (5) the driver and passengers will remain with the vehicle unless ordered to do otherwise;
- f. The following procedures will be followed in the event of an attack during the march:
  - (1) *Alarms*
    - (a) *Ground Attack*  
long blasts of vehicle horns by day or night, verbal passage of information as soon as the column stops,
    - (b) *Air Attack*  
short blasts of vehicle horns by day or night.
  - (2) *Action to be taken on Sounding of Ground Attack Alarm*
    - (a) Drivers will immediately move their vehicles to the side of the road and take advantage of available cover. Drivers will remain with their vehicles.
    - (b) Group commanders will marshal available personnel to protect the vehicles and personnel and then attempt to determine the size, nature and direction of the attack.
    - (c) Personnel will not leave the vehicles unless ordered to by the convoy commander.
  - (3) *Action to be taken on Sounding of Air Attack Alarm*
    - (a) When hearing the air attack alarm or on being attacked by enemy aircraft, the policy will be to keep all vehicles on the move unless it is possible to move off the route into open formation or to disperse the vehicles.
    - (b) When vehicles are forced to stop because the road is blocked they will move off the road

## ANNEX D

and under cover if it is available. Packet commanders must send word back that the road is blocked and if possible get around the road block.

- (c) Aircraft will not be fired upon unless the column is strafed and then engagement will be only with medium or light machine guns.
- (d) In the event of chemical attack, the column will halt and all personnel will don NBCW protective masks. The use of tarps and ponchos, for covering equipment and personnel is necessary for protection from spray. (See Annex H—SOP on NBC defence).

*g. Movement by Night*

- (1) Strict blackout regulations will be observed unless otherwise ordered. Vehicles will only display authorized driving or convoy lights.
- (2) Drivers and co-drivers must ensure that each other remains awake.
- (3) Movement at night will be at maximum density.

**8. Duties of Rear Party**

- a. The rear party will be responsible for performing the following:
  - (1) handover of equipments for repair to the new unit (if applicable);
  - (2) filling all latrines, refuse pits;
  - (3) directing units to new workshop site;
  - (4) collecting unit signs en route, and quitting the area, allowing sufficient time so as not to close on the main body before it arrives at the new site.

**9. Procedure for Movement into New Area**

- a. The lead vehicle of each platoon will pick up a guide/representative at the entrance to the new area.
- b. Vehicles will slow down at the entrance to the new area and will move to individual assigned locations.
- c. All vehicles will be headed out when sited.
- d. etc.

(Refer to Annex B to this manual).

(Extracts from formation orders may be applicable to the locality and should be inserted in this SOP.)

Commanding Officer  
Signature Block

**Distribution**

## SAMPLE

# STANDING OPERATING PROCEDURE (SOP) ACCEPTANCE OF WORK AND REPAIR PROCEDURE IN THE MAIN WORKSHOP GROUP

Date .....

**AIM**

1. The aim of this SOP is to describe the procedure for accepting and repairing equipment by the main element of this workshop.

**GENERAL**

2. This unit, while working under peace-time conditions or during summer concentrations, will adhere to the accounting procedures detailed in EME Manual Management K 010.

**SOURCE OF WORK**

3. Work will normally be received from two sources:
  - a. from the Forward Repair Platoon (FRP)—repairs beyond the capability of the FRP;
  - b. from units in the formation logistics area.
4. Equipment beyond the repair capability of the FRP will be backloaded to the main workshop, or if the FRP commander considers the repairs beyond the capability of the main workshop, the equipment will be delivered directly to the formation Backloading Point (BLP). All the rearward movement behind A echelon will be carried out by the Recovery Platoon on request from the FRP.
5. Equipment in the formation logistics area is normally delivered to the main workshop by the unit. The workshop recovery section will pick up the equipment which is beyond the capability of the units to deliver.
6. The limits of work to be accepted are usually prescribed by the Senior EME but this workshop will normally accept work when it arrives at the workshop, provided that:
  - a. it comes from a unit normally supported by the workshop; in an emergency, this provision will be waived;
  - b. the workshop required is of a legitimate nature, eg, not an unauthorized modification.
7. The workshop will not refuse work and call it in at a later date, unless:
  - a. the equipment is sufficiently serviceable to continue in use until workshop capacity is immediately available;

## ANNEX E

- b. the staff has directed that the unit concerned should be given a very low priority and workshop capacity is fully allocated.

**PROCEDURE**

8. A unit requiring EME Services will originate a Request for Services. This form consists of five parts. Copy No. 1 is retained by the unit and the remaining copies accompany the equipment to the workshop. In an emergency, the workshop will initiate the Request for signature by the unit representative.

9. At this stage, unless it remains in the charge of the unit representative accompanying it, the equipment must be carefully examined for any deficiencies that are not recorded in the log book or history sheet. Request for services will also be checked for authenticity and completeness at this time.

10. All documents and accessories received will be listed on the reverse side of copies 2 and 3 of the Request. Receipt will be given for the equipment on Copy 2 of the Request. (See Fig 2—EME Manual Management K 010).

11. If a vehicle is recovered from unit lines by a recovery team, the unit is given a temporary receipt endorsed as "unexamined"; the normal check for deficiencies is made on arrival at the workshop.

12. The Request will be entered in the 2149 Register. This Register should show the following information: (See Fig 8—EME Manual Management K 010).

- a. Date Request received.
- b. Unit;
- c. Unit Request Number.
- d. Repair Section.
- e. Equipment and CAR Number.
- f. Control Number (allotted by the workshop).
- g. Copy 5 to SPSS.
- h. Copy 5 from SPSS.

13. **Safe Custody of Vehicle Kits**

- a. Each vehicle has an equipment issue scale which details the removable items, the additional equipment normally supplied by the manufacturer and the items placed in or on the vehicle from RCOC sources. These additional items are referred to as "kits".
- b. If a vehicle for repair is accompanied by the drivers or crew, they are responsible for the vehicle kits, otherwise the loose items will be checked and held in the R&I stores together with any attractive and easily removable items.

#### 14. Information from Units

Units will, whenever possible, detail all repairs that are required in the Services Requested block of the Request and give a realistic date the equipment is required.

#### 15. "In" Inspections

When a Request is received with insufficient detail of services requested, the control officer will arrange a complete "In" inspection. The equipment will be classified:

- Class S — Serviceable or operationally safe and requires no technical work. The equipment can be committed to any operation or exercise within the scope of its intended role or task of the holding unit.
- Class X — Safe to operate but requires technical work within the scope of the user unit to restore to Class "S" condition. Where practicable the equipment can be used but not in a role where a breakdown might prejudice the outcome of an operation.
- Class Y — Unsafe to operate or incapable of operation without attention by workshops. The equipment can be restored to Class "S" condition within the capability of a second/third line workshop.
- Class Z — The equipment requires base repair to restore it to a serviceable roadworthy or battleworthy condition.
- Class BR — All equipments which are considered beyond economical repair or not repairable. (See Manual Management H 551 for details).

#### 16. Planning of Workload

- a The planning of the work in the workshop will be carried out by the control officer.
- b. Once the job has been accepted, the control officer will take the following action:
  - (1) ascertain its priority;
  - (2) examine the workshop order to ensure that the repair is within the capacity of the workshop;
  - (3) investigate the availability of the spares or material required;
  - (4) consider whether any special skill is needed for the work;
  - (5) consider whether any special equipment or tools are needed;



## ANNEX E

- (6) consider whether any special technical information is required and, if so, from where it can be obtained;
  - (7) consider the existing workload in the appropriate platoon or section;
  - (8) arrange for any necessary sketches to be prepared.
- c. Having made his appreciation and decided what to do, the control officer will adopt one of the following alternatives:
- (1) pass the work order to the appropriate platoon and arrange for the equipment to be moved to the required working site;
  - (2) place the work order in the appropriate platoon or section portion of a "waiting repair" bin;
  - (3) if the equipment is beyond the capacity of the workshop arrange for its backloading. (See EME Manual Management H 700).
- d. The contents of the "waiting work" bin will be reviewed regularly and work orders passed to the platoon or section concerned as soon as they have the necessary labour available and the spares required for the repair. The work orders in the bin will be dealt with in order of job numbers, subject of course to the required labour and stores being available and to any priorities in force.
- e. *Specific Repairs*
- (1) The workshop will normally undertake the work listed on the "IN" inspection report which will make the equipment safe to operate. Time permitting, all other specific repairs will be completed. Where the tactical situation dictates, safe operation comes first and outstanding repairs will be listed on the request and the equipment will be recalled later.
- f. *Demanding Stores*
- (1) Parts lists will be kept with workshop platoons and the requirements for spare parts will be listed by platoon or section NCOs. Stores will be obtained by the platoon or section directly from the RCOC Platoon.
  - (2) The section supervisor will make out a demand for stores immediately the job is allocated to him and arrange for the collection of the stores while work is commencing. The control office will have ascertained that the more important items are available before allocating the job. Should additional stores requirements be discovered while the repair is in progress, the NCO concerned will enter details

on the work order. If spare parts are in short supply, it may be necessary for the control officer to detail the "IN" inspector to draw the parts and hold them until all parts are available before passing the equipment (with the parts) to the repair section.

- (3) Tools and expendable stores will normally be kept in trucks parked in the platoon area. Tradesmen will demand the items verbally from the storeman as they are required. Tools will be signed for as temporary issues but expendable items will be issued without paper work, being written off charge when drawn in bulk from the RCOC Platoon.

#### 17. Progression of Work

- a. Number three copy of the Request for Services will be inserted into the Job Progress Recorder (multi-ring binder) in the control office. The status of each job in the workshop is maintained in this record. These records will be kept up to date and should not be over one day old. (See Fig 3 EME Manual Management K 010).
- b. Number four copy will be held in a pending file in the control office until the job is completed. (See Fig 4, EME Manual Management K 010).
- c. Number five copy will be passed with the equipment to the appropriate platoon when the platoon can start work. (See Fig 5, EME Manual Management K 010).
- d. It is essential, for efficient control of the workshop, that all arrangements with the units on such matters as completion dates are made by the control officer and not by the platoon or section commander.

#### 18. Completion of Work

- a. When work on an equipment is completed, it will be cleared from the workshop in three stages, namely:
  - (1) "OUT" inspection;
  - (2) Documentation;
  - (3) Collection by unit.
- b. "OUT" Inspection
  - (1) On completion of the repair, the section supervisor will enter on the workshop order any details of work carried out not already recorded. He will sign the workshop order, which is then passed via the workshop office to the individual responsible for the "OUT" inspection of the equipment.
  - (2) The inspector will complete an "OUT" inspection report on the appropriate inspection form. If the repair is found satisfactory, he will tick each item on the relevant space of the inspection report and

## ANNEX E

then sign the work order, which is returned once more to the control office. If, the "OUT" inspection discloses the need for further repair, the requirements will be entered on the work order and the order with the inspection report, sent back to the workshop platoon concerned, through the workshop office. In an emergency, inspection reports may be dispensed with.

- (3) After passing "OUT" inspection, the equipment will be sent to the collection park or the R & I stores for collection by the unit.

c. *Documentation*

- (1) On receipt of the signed work order from the platoons or sections the workshop office clerk will:
  - (a) complete the record in Progress Recorder and file Copy 3 of the Request;
  - (b) complete the 2149 Register;
  - (c) complete Copy 4 of the Request and pass it to the Senior EME;
  - (d) enter details of the repair in history sheets of the equipment;
  - (e) inform the unit that the equipment is ready for collection unless there is a unit representative with the equipment;
  - (f) obtain receipt from unit on copy 5 and file it with all inspection forms.
- (2) Some equipments may leave the workshop with items to be kept under observation or with faults that have not been corrected. One of the following methods will be used to inform the units:
  - (a) Give the unit a copy of the "OUT" inspection form, marked to show the jobs that they should carry out and the items to be kept under observation.
  - (b) Give the unit a proforma containing a list of outstanding items under various headings, such as:
    - i. items to be kept under observation,
    - ii. items which are unit repairs and which should be carried out in the unit as soon as possible,
    - iii. repairs that should have been carried out in workshops but which have not been completed; the reason should be given, eg, lack of stores, insufficient time to move, etc.
- (3) In war, repaired tanks may have to be sent to a forward delivery squadron where they are re-kitted and provided with a fresh crew before being re-issued to a unit. When this system is in force, the

**ANNEX E**

unit originally owning the vehicle will already have received a replacement from the same source. In these circumstances close liaison is necessary between the workshop and the forward delivery squadron, with which it may work, on the disposal of the original crew.

**19. BR Procedure**

- a. When equipment which has been accepted for repair is subsequently found to be beyond local repair, it will be returned to the control office. Part 2 of Copy 3 of the Request for Services will be completed and passed to the RCOG platoon with the equipment. Part 3 of Copy 3 will then be passed to the unit to inform it of the action taken. (See Figure 3, EME Manual Management K 010).
- b. All kits will be returned to RCOG along with the respective equipment if it is backloaded or condemned.

**20. Operations**

- a. During operations, or due to an emergency, a simplified procedure of the foregoing will be instituted. For example:
  - (1) request for Services may be submitted by the unit to the workshop subsequent to acceptance for repair of the equipment or made up by the workshop while repairs are being completed;
  - (2) in extreme emergency, temporary receipt, subject to check will be given to the owner unit and no thorough check will be necessary at time of hand over;
  - (3) quick repairs will be made to equipment without reference to any forms;
  - (4) time will not be accounted for on the Request for Services if one is completed;
  - (5) paper work, such as 2149 Register, Shop Job Cards, will be dispensed with or only essential information entered thereon;
  - (6) replacement will take precedence over repair.

**REPORTS**

21. The reports, Workshop Daily Sitrep and Daily BLP Sitrep, shown at Annex — and — will be forwarded by radio or messenger to the senior EME of the formation by 1200 hours daily. The reports will be initiated by the control officer as at 1000 hours each day.

Commanding Officer  
Signature Block

**Distribution**

**RESTRICTED**

Annex—

To SOP

Repair Procedure Main Wksp Group

**WKSP DAILY SITREP****Sheet 1**

Precedence:—PRIORITY

Date/Time GP:

From: X Fd Wksp

Security Classification: SECRET

To: CREME Y CDN INF  
DIV

Originator's Number: EME 10

Info: BEME Z CIBG

SITREP as at 1000 hrs

## (1) GEN SIT

## (2) RCEME CAS LAST 24 HRS (see Note 1)

- (a) Offrs ..... (b) OR (By Trades) .....  
 (c) ARV ..... (d) Rec Veh .....  
 (e) Eng Eqpt ..... (f) B vehs (by types) .....

(3) *LOCS* (To incl locs of own unit, wksp Hel LZ, BLPs, Dets, Rec Posts and FRP if known; if NO CHANGE from previous report that is the only insertion nec)

<i>Unit/Det</i>	<i>Loc</i>	<i>Map Ref</i>
-----------------	------------	----------------

- (a)  
 (b)  
 (c)  
 (d)  
 (e)  
 (f)

(4) *WKSP STATE* (See Note 1)*STATE*

- | <i>Eqpt</i>              | <i>X</i> | <i>Y</i> | <i>Z</i> | <i>BR</i> |
|--------------------------|----------|----------|----------|-----------|
| (a) Centurion            |          |          |          |           |
| (b) Eng Eqpt             |          |          |          |           |
| (c) SP arty              |          |          |          |           |
| (d) 'B' vehs             |          |          |          |           |
| (e) Arty Eqpts (less SP) |          |          |          |           |
| (f) Radio Sets           |          |          |          |           |
| (g) Small Arms           |          |          |          |           |

**Wksp Daily Sitrep****Sheet Two**

- (5) *WKSP OUTPUT IN LAST 24 Hrs* (See Note 1)
- (a) Centurion ..... (b) SP Arty .....
- (c) Eng Eqpt ..... (d) 'B' Vehs .....
- (e) Arty Eqpt (less SP) ..... (f) Radio Sets .....
- (g) Small Arms .....
- (6) *EST AFV OUTPUT BY TYPES IN NEXT 24 Hrs*  
(See Note 1)
- (a) Centurion ..... (b) Scout cars .....
- (c) SP Arty .....
- (7) *ASSISTANCE REQUIRED*
- (8) *MISC INFO*
- \* (9) STR PERS (a) Offrs ..... (b) ORs .....  
(See Note 1 & 2)
- \* (10) STR VEH (a) ARV ..... (b) Rec Veh ....  
(See Note 1 & 2) (c) Eng Eqpt ..... (d) B Veh .....
- (11) *MAJ ASSY STATES* (See Note 1) (use suggested Code in Plate 3 of CAMT 11-2)

ASSYS .....  
.....  
.....  
.....  
.....

**Notes for compilation**

1. Do NOT incl details for FRP in paras (2), (4), (5), (6), (9), (10), (11).
2. Para marked\* will be completed only in initial SITREP and on change of cmd.

ANNEX E

## RESTRICTED

Annex—

TO SOP

Repair Precedence Main Wksp Group

## DAILY BLP SITREP

(If Applicable)

Precedence: PRIORITY

Date/Time Gp

From: X Fd Wksp

Security Classification: SECRET

To: CREME Y CDN INF  
DIV

Info: BEME Z CIBG

Originator's Number: EME 11

BLP STATE at as 1000 hrs

## (1) WKSP OR UNIT ADMINISTERING THE BLP

## (2) BLP LOC

## (3) BLP STATE

Class

Ser	Eqpt/Veh	Y	Z	BR	Total	Remarks
(a)	Centurion					
(b)	SP Arty					
(c)	Engr Eqpt					See Note 1
(d)	Scout Cars					
(e)	'B' Vehs					
(f)	Arty Eqpt					
(g)						See Note 2
(h)						See Note 2
(i)						See Note 2

(a) Centurion

(b) SP Arty

(c) Engr Eqpt

See Note 1

(d) Scout Cars

(e) 'B' Vehs

(f) Arty Eqpt

(g)

See Note 2

(h)

See Note 2

(i)

See Note 2

## (4) MISC INFO

Notes—1. Details of types to be given in remarks colm

2. These sers are spares to be used for misc eqpt  
not covered in previous sers.

## SAMPLE

# STANDING OPERATING PROCEDURE (SOP) ACCEPTANCE OF WORK AND REPAIR PROCEDURE IN THE FORWARD REPAIR PLATOON

Date .....

**AIM**

1. The aim of this SOP is to describe the procedure for accepting and repairing equipment to be adopted by the Forward Repair Platoon (FRP) of this workshop.

**GENERAL**

2. When working under peace-time conditions or during summer concentrations, the FRP will follow the accounting procedures detailed in EME Manual, Management K010.

**ORGANIZATION**

3. The FRP will be organized in accordance with the unit establishment as follows:

- a. *Platoon HQ*  
Personnel and vehicles as shown in establishment.
- b. *Tracked Teams:* NCO in charge—Master Vehicle Technician S/Sgt.

Team No 1	} each consisting of	Vehicle Mechanics	Tracked	Sgt - 1 Cfn - 2
Team No 2				
Team No 3	} each consisting of	Vehicle Mechanics	Tracked	Cpl - 1 Cfn - 2
Team No 4				
Team No 5				
Team No 6				
Team No 7				
Team No 8				

Vehicles—as per establishment



## ANNEX F

- c. *Wheeled Teams*: NCO in charge. Master Vehicle Technician S/Sgt

Team No 1	}	each consisting of Vehicle Mechanics Wheeled	Cpl - 1 Cfn - 1
Team No 2			
Team No 3			
Team No 4			
Team No 5			
Team No 6			

*Vehicles*—as per establishment

- d. *Radio Team*: Consisting of: Master Radio Technician - S/Sgt 1

Radio Technician - Cpl 1  
- Cfn 1

*Vehicles*—as per establishment

- e. *Weapons Team*: consisting of: Master Weapons Technician - S/Sgt 1

Weapons Technician - Cfn 2

*Vehicles*—as per establishment

- f. *RCOC Spare Parts Detachment* — Consisting of:

Storeman/Storeman  
Clerks/RCOC  
1 or 2

## TOOLS AND EQUIPMENT

4. Vehicles of the tracked and wheeled teams will carry personal weapons and kit, hand tools, slave batteries, cooking equipment, etc.

5. A recommended scale of tools and equipment to be carried is:

main engine tools  
hand tools and auxiliary general tools  
clutch and transmission tools  
final drive tools  
expendable stores  
spare parts lists

EME and operators manuals for the type of vehicles used in the combat area

## General tools are:

work gloves  
lamps  
flashlight  
crow bars  
tow ropes  
pulleys  
pick axes  
shovels  
sledge hammers

6. The supporting RCOG detachment will have available in the forward area, the following type of stores:

## a. Major assemblies:

*Engines*

Centurion tank — 1  
Truck  $\frac{1}{2}$  ton — 2  
Truck  $\frac{3}{4}$  ton — 2  
Truck  $2\frac{1}{2}$  ton — 2

*Auxiliary Engine*

Centurion tank — 2

*Transmissions*

Centurion tank — 2  
Truck  $\frac{1}{2}$  ton — 2  
Truck  $\frac{3}{4}$  ton — 2  
Truck  $2\frac{1}{2}$  ton — 2

*Clutch assemblies*

Centurion tank — 2  
Truck  $\frac{1}{2}$  ton — 2  
Truck  $\frac{3}{4}$  ton — 2  
Truck  $2\frac{1}{2}$  ton — 2

## Centurion Final Driver LH &amp; RH—2 each

b. At least 2 of each of the following minor assemblies will be carried for each of trucks  $\frac{1}{2}$  ton,  $\frac{3}{4}$  ton,  $2\frac{1}{2}$  ton:

Carburettors  
Fuel pumps  
Distributors  
Starters  
Generators  
Etc.

**ANNEX F**

7. Vehicles of the radio and weapons teams will carry personal weapons and kit, applicable hand tools and test equipment for the equipment in normal use in the forward area. Radio team should carry extra tubes for the radio sets operated in the forward area. At least one of each radio set used should be carried for exchange purposes. Spare parts lists and a set of applicable manuals are also necessary.

**8. Equipment Preparations**

- a. Repair teams will ensure that assemblies are pre-loaded in trailers for use in selected repair jobs such as engine changes to essential vehicles.
- b. Vehicle maintenance will be of a high order so that maximum cross-country performance can be maintained at all times.
- c. Before proceeding on a job teams will ensure that all parts and hardware that might possibly be required during an assembly change, are included in the box the assembly comes in. These small parts will be made up into packs which should include nuts, bolts washers, steel wire, split pins, screws, etc.
- d. Aircraft may be used for movement of parts and assemblies from the main workshop to the FRP site.

**RECORDS**

9. The following information and records will be maintained by the FRP:

- a. Battle map showing locations of teams.
- b. Control Board (See Annex.....).
- c. Location board showing locations of HQ and units in the formation, petrol points and supply points.
- d. Log and message board.
- e. Record of tasks performed. (See para 22).

**PROCEDURE**

10. The platoon HQ will act as the command and control element for the platoon and will be situated in the 'A' echelon area of the units it supports.

11. Units requiring repair facilities in-situ will request them from the FRP headquarters via their 'A' echelon by whatever means possible; normally this will be reported by radio. Units will be notified to submit their request for repair services in message form giving the following information:

- a. Equipment nomenclature.
- b. CAR number.
- c. Assembly or FAMTO required.
- d. Location of equipment or guide to RV.
- e. Unit or sub-unit.
- f. All the information which might expedite the completion of the repair.

12. Units will be notified of a suitable code to be used when requesting services by radio. (Refer to Plate 3 of CAMT 11-2 RCEME in the Field for suggested code names). Code names will only be used for large assemblies such as tank or vehicles engines and only when security of information is necessary.
13. Code names will be changed at least once a month or sooner if they have been compromised.
14. On receipt of the above repair message the FRP commander will check the availability of his repair teams and assembly or parts required and notify the unit when he can have a repair team at the site.
15. If a team or the parts required are not immediately available, the FRP commander will notify the 'A' echelon of the respective unit of the forecast time of arrival of the team and confirm that time later.
16. The repair team designated for the job will collect the tools and assemblies required, proceed to the equipment and begin the repairs.
17. When parts or assemblies are not immediately available the platoon commander or warrant officer will immediately order them from the field workshop for either urgent delivery by air or by vehicle.
18. When ordering assemblies from the workshop a message form, with the following information, will be used:
  - a. Part number.
  - b. Nomenclature.
  - c. Type of equipment.
19. Subject to para 12, code words used for demanding assemblies will be the same as used by units in the request for repair message.
20. FRP control will record all requests for repair on the message form described in Plate 3 of CAMT 11-2, RCEME in the Field.
21. During summer concentrations the forms required in accordance with EME Manual Management K010 will be completed. Copies of the Repair Message Form (Plate 3, CAMT 11-2) will be retained and referred to when completing the documents required in the EME Manual.

## REPORTS

22. The FRP Sitrep shown at Annex..... will be submitted to the formation EME each day. Sitrep, as at 0800 hrs may be sent by radio or messenger to arrive not later than 0900 hrs daily. One copy will be sent to the main workshop as a warning of requirements.

Commanding Officer  
Signature Block

**Distribution:**

Annex.....

**To SOP**  
**Repair Procedures**  
**Forward Repair Platoon**

Serial	Unit	Type of Eqpt	Loc of Cas (GR)	Fault	Waiting Repair		In Progress by Team No	Time Out	Est Time In	REMARKS	Teams		
					Parts	Labor					1 Tk 2 Tk 3 Tk 4 Tk 5 Tk	6 Tk 7 Tk 8 Wh 9 Wh 10 Wh	11 Wh 12 Wh 13 Wh 14 Wpn 15 Radio
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
up to 50													

# FRP CONTROL BOARD X Fd Wksp

Annex.....

To SOP

Repair Procedures  
Forward Repair Platoon

(Formation)

**EQUIPMENT REPAIR STATE  
FORWARD REPAIR PLATOON**

UNIT ..... Fd Wksp RCEME

Last 24 hrs ending  
1200 hrs ..... (date)

EQUIPMENT	In Progress	Await Labour	Await Parts	Total	Received	Completed	Backloaded	REMARKS
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	
AFVs								
Car Scout Ferret								
Tk Med Cent								
APC								
Misc AFV								
WH VEHS								
MC								
Truck Utility $\frac{1}{2}$ ton								
Truck Cargo $\frac{3}{4}$ ton								
Truck Panel $\frac{3}{4}$ ton								
Truck Cargo $2\frac{1}{2}$ ton								
Truck Dump $2\frac{1}{2}$ ton								
Truck Shop Van $2\frac{1}{2}$ ton								
Truck Cargo 5 ton								
Truck Recovery 5 ton								
Truck Tractor 5 ton								
Trailer Cargo (all types)								
Trailer Special								
Misc Vehs								
ENGR EQPT								
Tractor Crawler								
Grader Road Motorized								
Crane Shovel Truck Mtd								
Compressor 250 cu. ft.								
Misc Engr Eqpt								
WEAPONS								
Mor								
RL								
RR								
MG								
Rifles and SMG								
How 105 mm								
How 155 mm								
Misc Weapons								

## ANNEX F

EQUIPMENT	In Progress	Await Labour	Await Parts	Total	Received	Completed	Backloaded	REMARKS
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	
GENERATORS								
10 KW								
5 KW								
3 KW								
1 KW								
AIRCRAFT								
Lt AC L 19								
Hel Recce								
Hel Cargo								
Misc AC								
ELECTRONIC EQPT								
Radio Set CDN No 52								
Radio Set CIRC 26								
Radio Set C 42								
Radio Set AV/PRC 509/510								
Tele TA-43/PT								
Tele exchange								
Misc								

## SAMPLE

**STANDING OPERATING PROCEDURE (SOP)****ACCEPTANCE OF CASUALTIES AND RECOVERY  
PROCEDURE IN THE RECOVERY PLATOON**

Reference: This SOP will be read in conjunction with Chapter 3 of  
CAMT 11-2, RCEME in the Field (Revised).

Date.....

**AIM**

1. The aim of this SOP is to describe the procedure for accepting and recovering casualties by the Recovery Platoon.

**SOURCE OF REQUEST**

2. Recovery will normally be requested by:
  - a. Formation headquarters (for route clearance).
  - b. Units in the forward area.
  - c. The Forward Repair Platoon.
  - d. Units in the administrative area.
  - e. Various platoons of the workshop for heavy lift assistance and backloading to the BLP.

**RECOVERY CONTROL**

3. Unless otherwise stated, in this formation recovery will be co-ordinated and controlled by BEME in the forward area and by the Commanding Officer of the workshop in the rear areas.

**PRIORITIES**

4. Unless otherwise stated by the staff the following priorities will prevail:
  - a. Nuclear artillery and associated equipment.
  - b. AFVs.
  - c. Aircraft.
  - d. Non-nuclear artillery and associated equipment.
  - e. SEVs.
  - f. All other wheeled vehicles.
  - g. Other equipment.

**PROCEDURE**

5. On receipt of a request for recovery, the platoon commander will check the availability of his recovery teams and inform the BEME of the time when the team will arrive at the site.
6. The team will recover the casualty and complete a recovery report. The BEME will be notified that the job has been completed.



## ANNEX G

## RECORDS

7. The following records will be kept by the recovery platoon:
  - a. Battle map showing locations of casualties, UP and DOWN routes, traffic posts, detours, etc.
  - b. Location board showing locations of HQ, RCME units and elements, medical posts, supply points, etc.
  - c. Battle board showing distribution and details of tasks of recovery resources.
  - d. Log and message board.
  - e. Recovery task record containing complete information on each casualty reported.
8. Units have been issued with "Recovery Request" cards listing the following headings to ensure that complete information is given with a request:
  - a. Name of unit.
  - b. Type and make of equipment and CAR number.
  - c. Condition classification (X, Y, Z or BR).
  - d. Whether or not equipment can be moved by direct or suspended tow or if it can move under its own power.
  - e. Grid reference of equipment location.
  - f. Extent of assistance required.
  - g. Details of location, ie minefield, marsh, available approaches etc.
  - h. Whether or not the crew has remained with the equipment.

Commanding Officer  
Signature Block

## Distribution

## SAMPLE

# STANDING OPERATING PROCEDURE (SOP) NUCLEAR, BIOLOGICAL, CHEMICAL (NBC) DEFENCE

(References: CAMT 2-10, Individual Training, Nuclear  
Biological, Chemical Warfare—(1959))

Date .....

## 1. Aim

The aim of this SOP is to establish the organization for NBC defence, to describe the responsibilities of unit personnel and the procedure to be followed in the event this unit is subjected to NBC attack.

## 2. Organization

a. The following duties are delegated, to personnel as indicated:

(1) *NBC Officer*. Platoon commander Vehicle platoon.

(2) *Rescue Squad*. This squad will include:

(a) Sergeant — Recovery Platoon  
(Show name)

(b) Wrecker Crewman — Cpls 2, Cfn 7, Recovery Platoon (Show names)

(3) *Monitors*. One Sergeant and three craftsmen—Weapons and Electronics Platoon (Show names)

(4) *Drivers*. As required — Recovery and Vehicle Platoon.

(5) *Decontamination Squad*. One NCO and nine men —Vehicle Platoon and Weapons and Electronic Platoon (Show names)

## 3. Responsibilities

a. *Workshop Commander*. He will:

- (1) control the despatch of monitors when they are required to work outside the unit area;
- (2) immediately inform formation headquarters and adjacent units of a NBC attack.

b. *NBC Officer*. He will:

- (1) supervise and conduct NBC training;

## ANNEX H

- (2) inspect NBC supplies and equipment;
- (3) recommend NBC defence measures to the unit commander;
- (4) supervise the maintenance of NBC equipment and the construction of protective shelters and decontamination facilities when necessary;
- (5) assist the unit commander in planning area damage control operations.  
(NBC officers should be graduates of the following courses:

RCEME 153—Equipment Decontamination

NBC 5—Officers Basic NBCW).

- c. *Rescue Squad.* The rescue squad will obtain, maintain and become proficient in using the required equipment to perform rescue and area damage control operations in the unit area.  
(NCO should have attended course RCEME 153 or a course at the Joint Nuclear Biological and Defensive Warfare School or the Civil Defence College.)
- d. *Decontamination Squad.* Personnel of this squad will maintain and control unit NBC supplies and equipment. They will become proficient in protective measures against NBC agents.  
(NCO should have attended a course on decontamination.)
- e. *Monitors.* These personnel will obtain, maintain and become proficient in using the required equipment and will perform monitoring or surveying operations as directed. They will operate as indicated in the SOP for radiological monitoring and survey activities.
- f. *Individuals.* Each individual of this unit will become proficient in personal NBC protective measures and maintain their personal equipment. This equipment includes the NBCW protective mask and accessory items.

#### 4. Alarms

- a. *General Alarm.* The general alarm (NBC attack considered imminent) will be announced by higher headquarters when advance warning is possible.
- b. *Actual Biological or Chemical (BC) Attack.* A warning of the actual attack (enemy attack in process or BC agents detected) will be sounded by the individual detecting the attack by shouting "gas" or "spray" whichever the case may be and by rapid and continuous beating on any metal or any other object which will produce a loud noise, such as bells, metal triangles iron railings, iron pipes, empty shell cases, mess tins, steel helmets,

vehicle bodies etc. Visual signal: Donning of the protective mask followed by any agitated action to draw attention to this fact.

## 5. Defensive Measures

### a. Nuclear

- (1) The first indication of a nuclear explosion is the bright light. If you see this light and are caught in the open, instantly drop to the ground and curl up to protect hands, face and neck from flash. *You have only one second to act*; this is insufficient time to look for a slit trench or better shelter.
- (2) If warning is received before the attack, get into a slit trench or protective shelter. Overhead cover should be utilized even if it is only a poncho.
- (3) Remain under cover for at least 90 seconds after the explosion.
- (4) Following the blast, all personnel will resume operations unless instructed otherwise.
- (5) The NBC officer and monitor party will report to workshop headquarters and begin monitoring operations. The commanding officer will be notified of dose rates, times and locations of readings.
- (6) Dosage allowances will depend on the tactical situation. Continuous monitoring will be initiated when a nuclear strike is observed or a fallout warning is received. If fallout arrives in the area, personnel will take cover on orders of platoon or section commanders. The unit will move only on order of the commanding officer.
- (7) The commanding officer will report the location and intensity of the strike, approximate cloud height, status of personnel and equipment, extent of damage and dose rate of radiation to formation headquarters.

### b. Biological

- (1) The presence of biological agents is difficult to detect. Early recognition of biological attack is essential so that proper counter measures may be taken. The appearance of any of the following clues will be reported to the platoon commanders and thence to the commanding officer:
  - (a) Enemy aircraft dropping unidentifiable material or spraying unidentifiable substances.
  - (b) Unusual types of shells and bombs, particularly those that burst with little or no blast.

## ANNEX H

- (c) Smoke or mist of unknown source or type.
  - (d) Unusual substances, glass bottles or other containers lying on the ground in the area.
  - (e) Unusual increase in insects such as mosquitoes, fleas, ticks.
  - (f) Sick or dead animals.
  - (g) Illness of personnel.
- (2) Personnel will don NBCW protective masks, continue operations and remain masked until the ALL CLEAR is given.
  - (3) Food, personnel and equipment will be covered by tarpaulins, ponchos or other suitable material as far as possible to prevent further contamination from spray.
  - (4) As soon as the attack is detected, adjacent units and formation headquarters will be notified. After the attack, the CO will notify formation headquarters of the time, location, duration, identity of the agent, if known, and the status of personnel.
  - (5) The NBC officer will forward samples of suspected contamination to formation headquarters for identification and analysis by the appropriate authorities.

c. *Chemical*

- (1) Personnel detecting the use of chemical agents will give the alarm immediately. The alarm will be relayed to adjacent unit and formation headquarters.
- (2) All personnel will don NBCW protective masks immediately and continue with their work.
- (3) In the event of spray attack, all possible food and equipment will be covered with tarpaulins, tentage or other suitable material. Personnel will utilize any available cover, ponchos, or shelters to protect themselves from contamination by spray.
- (4) The NBC officer and NCO will begin sampling as soon as the situation permits. Reports on the type and location of contamination will be submitted promptly to formation headquarters.
- (5) Platoons and sections will disperse to alternate gas free positions on order of the commanding officer only.
- (6) Personnel will remain masked until the ALL CLEAR is sounded.

## ANNEX H

- (7) Formation headquarters will be informed of the time, location and duration of attack; the identity of the agent (if possible) and the status of personnel.

## 6. Marking

Platoon commanders are responsible for ensuring that all contaminated places in their area have been properly marked. (See Annex 7 of CAMT 2-10, Individual Training NBC Warfare)

## 7. Decontamination

- a. Following an NBC attack, personal weapons and essential equipment decontamination will be done as soon as the situation permits. Priority of decontamination will be:
  - (1) Personnel.
  - (2) Personal weapons.
  - (3) Food and water supplies.
  - (4) Tools, equipment and vehicles.
  - (5) Personal equipment.
- b. Decontamination will be conducted under the supervision of unit NBC officer.
- c. All unit personnel must know the procedures for decontaminating themselves and their personal equipment.
- d. The decontamination squad will conduct decontamination operations only when directed by the commanding officer through the NBC officer.

Commanding Officer  
Signature Block

## Distribution

## SAMPLE

# STANDING OPERATING PROCEDURE (SOP) GROUND OR AIR DEFENCE

Date.....

## 1. Aim

The aim of this SOP is to establish the organization for ground or air defence, to describe the responsibilities of unit personnel and the procedures to be followed in the event this unit is subject to enemy ground or air attack.

## 2. Organization

- a. Each platoon is responsible for its own internal defence. When taking up defensive positions for the protection of the workshop, the following sections of the defence perimeter will be covered by personnel of the platoons as shown and will be under direct control of the platoon commander:
  - (1) on a line running through alarm posts number ..... and ..... from weapons site number ..... coverage will be maintained by the ..... platoon;
  - (2) etc.
  - (3) etc.
- b. Platoon commanders will divide their platoons into sections of at least eight men each and detail a warrant officer or senior NCO to command them.
- c. Alarm posts will be set up at:
  - (1) (here list strategic points on the periphery of the workshop area and allot a number to each post);
  - (2) etc.
 (They should be sited so as to meet ground attack from any direction and give concealment from air observation.)
- d. The following personnel are allotted to alarm posts as shown:
 (Here list names of personnel by post number.)
- e. The following platoons/sections will provide one man by day and two men by night to act as sentries at the main entrance to the workshop. They will give early warning of any attack and challenge visitors or suspicious persons loitering in the vicinity.
 (Here list the platoons/sections who will provide sentries, showing ranks required.)
- f. The Orderly Sergeant (Orderly Corporal) will post sentries and ensure that they know their duties. When a sentry has to expose himself at night, eg to examine

## ANNEX J

traffic or personnel, he must be covered by the second sentry who remains concealed. The duties of sentries and methods of challenging are as follows:

(Here list the duties and methods of challenging as contained in CAMT 7-1, Fieldcraft.)

- g. Weapons Posts will be set up as follows:  
(Here list the light machine gun, anti-tank and anti-aircraft weapon pits. They should also be sited in strategic places, with good fields of fire. Each site should also be numbered.)
- h. The following personnel are detailed to man the weapon site as shown whenever an attack is imminent or an alarm has been sounded:  
(Here list personnel to man the sites showing number of sites.)
- i. Communication between posts will be by messenger.
- j. Personnel of the Administrative Platoon will act as reserve and when an alarm has been sounded will report to the workshop headquarters with their personal weapons and NBCW protective masks and await further instructions.
- k. The following will act as messengers between the headquarters and outlying defence posts:  
(Here list one of the drivers and an alternate.)
- l. During stand-down periods, personnel will carry out their normal duties but will ensure their personal weapons and equipment are within reach in case of a local alarm.

### 3. Road Blocks

- a. (Where applicable, these should be defined and set up and personnel detailed to man them. The principle governing the use of roadblocks is set out in CAMT 7-45, Infantry Section Leading and Platoon Tactics, Chapter VIII.)

### 4. Anti-aircraft Defence

- a. (As mentioned in paragraph 2g, sites and personnel should be allotted and the conditions of CAMT 7-45, Chapter VIII, Section 48 set down in the detail required.)

### 5. Responsibilities

#### a. Workshop Commander

- (1) He is responsible for overall command and control of the defence operations.
- (2) All orders and instructions pertaining to the operation will emanate only from him or an officer delegated by him.



## ANNEX J

- (3) He will immediately inform formation headquarters and adjacent units of the attack, stating type, ie ground, guerrillas, air, etc and numbers if possible.

b. *Second-in-command*

- (1) He will assist the workshop commander and act in his absence.
- (2) He will supervise the overall deployment of personnel around the workshop and within each sector of defence.

c. *Administrative Officer*

- (1) He will command the reserve group concentrated around the headquarters.
- (2) He will deploy his troops as directed by the workshop commander.

d. *Company Sergeant-Major*

- (1) He will assist the second-in-command in deployment of troops.
- (2) He is responsible for issuing and siting light machine guns, anti-tank and anti-aircraft weapons and the supply of ammunition.
- (3) He will arrange to have general duty personnel immediately available to act as messengers, carry ammunition and water or give any other assistance that may be required.

e. *Platoon Commander*

- (1) Platoon commanders are directly responsible for the command of their platoons and will control all defence activities in their area of responsibility.
- (2) Each platoon commander will detail a messenger for the purpose of liaison between the workshop commander and himself. By this means, he will keep the workshop commander informed of the situation in his sector.
- (3) Platoon commanders will divide their platoons into sections and detail senior NCOs or WOs to command them.

6. **Alarms**

- a. **LOUD** warning for attacks as shown below will be given by persons discovering an attack.
  - (1) **Air Attack**—Continuous series of short blasts on a vehicle horn, whistle or bugle.

Visual signal: Rapid crossing and uncrossing of the arms fully extended above the head.

- (2) Ground Attack—Series of long blasts on a vehicle horn, whistle or bugle.
- b. A general alarm will be notified to all platoons and sections as directed by the workshop commander.
- c. The ALL CLEAR will be sounded on authority of the workshop commander and will consist of a continuous sustained blast on a vehicle horn, whistle or bugle.

## 7. Code Words

- a. Code words, as previously issued by formation headquarters will be used automatically during the period of attack.

## 8. Defensive Measures

### a. NBC Attack

As for SOP on NBC Defence.

### b. Ground Attack

- (1) On hearing the alarm, all work will cease. Motors, generators, machines, etc, will be turned off. During night all lights will be extinguished and no one will smoke.
- (2) Personnel will take their personal weapons, steel helmets, and protective masks and quickly proceed to their prearranged posts as detailed in paragraph 2.
- (3) They will look to their front and flank and be ready to take orders from the platoon commander in charge of the sector. The enemy should not be engaged until an order is given by the officer in charge of the sector.
- (4) Ammunition will be obtained from workshop headquarters by messenger.
- (5) Whilst in the air, enemy parachutists will be engaged by small arms fire and automatic weapons on authority of the platoon commander.
- (6) Cease fire will be given by the workshop commander.

### c. Air Attack

- (1) In case of air attack, the procedure for ground attack will be carried out with the following exceptions:
  - (a) Only the automatic weapon sites will be manned.
  - (b) Personnel will occupy the slit trenches in their working areas.

## ANNEX J

## 9. Post Attack

- a. When an attack has been repulsed and the all clear signal has been sounded, the following order of priority will be given to post attack duties:
  - (1) Each alarm post will remain manned;
  - (2) Immediate attention will be given to casualties;
  - (3) When action has been prolonged, personnel will be fed and rested;
  - (4) Weapons will be cleaned;
  - (5) Ammunition will be checked for expenditures so that a new supply can be demanded;
  - (6) Machines, generators, lights will be turned on and personnel will resume work.

Commanding Officer  
Signature Block

**Distribution:**

## SAMPLE ANNUAL TRAINING PROGRAM FOR A RCEME FIELD WORKSHOP

- REFERENCES: 1. Annual Training Directive 19.....
2. Command/Formation Training Plan 19...../  
..... (File Reference .....)

Date.....

### 1. General

- a. The following factors will be taken into consideration in the implementation of this training program:

- (1) Training will be conducted when and where it is compatible with production, ie, priority repairs, special programs, preconcentration emergencies, inspections.
- (2) In order to complete tactical as well as technical training, individual trades training will be conducted throughout the year. Therefore this aspect of individual training will run concurrently with the miscellaneous and collective training periods.

### 2. Aim

- a. To prepare ..... Field Workshop RCEME for its operational role by:
- (1) increasing the military and technical skill of all personnel;
  - (2) perfecting the tactical and technical operation of the workshop so that it can give the most efficient support to the units in its formation.

### 3. Training Calendar

Individual training will be conducted during the period .....  
..... to .....

- a. Miscellaneous training will be conducted during the period ..... to .....
- c. Collective training will be conducted during the period ..... to .....

### 4. Method and Scope

- a. Individual training will consist of:
- (1) First aid training — Included in refresher training.

## ANNEX K

- (2) Refresher training — Courses of five days duration commencing each week from ..... to .....
- (3) Trades training —
- (a) ..... weeks in-job training for vehicle mechanics group 1 to group 2 commencing .....
- (b) ..... weeks in-job training (including two weeks recovery training) for vehicle mechanics group 2 to group 3 commencing .....
- (c) ..... weeks in-job training for weapons, electronics and ancillary trade groups 1 to 2 and 2 to 3 commencing .....
- (4) Pre Mr Technician — ..... weeks duration commencing .....
- (5) Pre assessment training for Junior and Senior NCO qualification — ..... weeks duration commencing .....
- (6) Preparation for officer qualification examinations — Organized study periods every afternoon during months ..... to .....
- (7) Physical fitness training — Daily 5BX exercises will be undertaken from ..... hrs to ..... hrs. Tests will be conducted every ..... months.

**NOTE:** Courses mentioned above will run concurrently but at no time will more than ..... per cent of the working force be absent from the workshop. The training officer will arrange schedules accordingly.

b. Miscellaneous and Collective Training will consist of:

- (1) Road movement — Convoy movement practised both by night and day at platoon level and with groups of platoons. One complete workshop move will be practised. Dates will be notified later.
- (2) Deployment and camouflage — Individual platoons and workshop as a whole will be exercised in operational locations. Date of exercise will be notified.

## ANNEX K

- (3) Defence of a workshop site — Defences will be prepared and alarm systems tested in accordance with SOP for air or ground defence. This practice will take place concurrently with deployment exercises. Dates will be notified.
- (4) Setting up and striking exercise — Will be practised in conjunction with above exercises. Emphasis will be placed on speed. Platoons and workshops will be practised and timed so that setting up and striking take a maximum time of two hours each.
- (5) Reconnaissance — Groups of personnel, with officers, WOs and Sr NCOs in charge will be practised in reconnoitering a site. Dates will be notified.
- (6) Concentrations — To be carried out under formation arrangements during the months of ..... Operation and Administrative orders will be issued separately.

**NOTE:** The above training will consist of a series of 24 to 48 hours exercises conducted three to four times during the months of .....

## 5. Training Syllabus

- a. The following officers and/or warrant officers are responsible for the preparation of syllabi and provision of instructors for training shown in paragraph 4:

- (1) Annual refresher — 2IC and CSM
- (2) Physical fitness — CSM
- (3) Trades training —
- |             |                                                         |
|-------------|---------------------------------------------------------|
| Vehicles    | — OIC Veh PI & Wksp SM                                  |
| Recovery    | — OIC Recovery PI & PL SM                               |
| Weapons     | } — OIC Wpns & Electronics PI & respective trades QMSs. |
| Electronics |                                                         |
| Electrical  |                                                         |
| Ancillary   |                                                         |

## ANNEX K

- (4) Pre assessment — 2IC and CSM  
Jr & Sr NCO  
Qualifications
- (5) Pre-Master Tech- — 2IC and Wksp SM  
nician
- (6) Officer qualifica- — CO.  
tion

- b. A copy of last years annual refresher training syllabus is attached at Annex ..... for the information and guidance of the 2IC and CSM.
- c. Miscellaneous and collective training will be notified in the form of operation and administrative orders to be issued later.

#### 6. Equipment and Accommodation

CSM will arrange necessary equipment and accommodation for all training except trades training.

Commanding Officer  
Signature Block

#### Distribution:

#### Training Syllabus

The following officer and/or warrant officer are responsible for the preparation of syllabus and provision of the resources for training shown in paragraph 4:

- (1) Annual refresher — 2IC and CSM
  - (2) Physical fitness — CSM
  - (3) Trades training —
- |                                                                                                                                                          |                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>— OIC Veh M &amp; Wksp SM</li> <li>— OIC Recovery M &amp; PL SM</li> <li>— OIC Wps &amp; Electronics M</li> </ul> | <ul style="list-style-type: none"> <li>Vehicles</li> <li>Recovery</li> <li>Weapons</li> <li>Electronics</li> <li>Electrical</li> <li>Auxiliary</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
- & respective trades QMS.

## ANNAL REFRESHER TRAINING FD WKSP RCEME

## ANNEX

To Annual Training Programme

DURATION:	Phase One	One week
	Phase Two	Annual Classification—two days
SCOPE:		Drill
		Map Using
		Weapons
		NBCW
		Military Law
		First Aid

PERSONNEL OF THE RANK OF STAFF-SERGEANT AND  
BELOW WILL ATTEND THIS TRAINING

### BLOCK SYLLABUS

CODE	SUBJECT	PERIODS
D	DRILL	10
MU	MAP USING	5
NBC	NBCW	6
RL	ROCKET LAUNCHER	6
FN	RIFLE 7.62MM (FN) C1	4
SMG	SMG 9MM	3
ML	MILITARY LAW	3
SP	SPARE	1
FA	FIRST AID	8
GR	GRENADE	3
T	TESTS	7
	TOTAL PERIODS	56



# SUGGESTED TIME TABLE

—	0830-0910	0910-0940	0940-1010	1010-1110	1110-1150	1150-1230		1400-1440	1440-1520	1520-1600	1600-1640
Monday	Spare	D-1	FN-1	GR-1	GR-2	D-2	L u n c h	FN-2	MU-1	FN-3	FA-1
Tuesday	D-3	GR-3	NBC 1	ML-1	ML-2	RL-1		D-4	FA-2	NBC 2	FA-3
Wednesday	D-5	RL-2	FA-4	RL-3	NBC 3	RL-4		D-6	NBC 4	NBC 5	FA-5
Thursday	MU-3	MU-4	MU-5	NBC-6	FA-6	D-7	B r e a k	FA-7	ML-2	FN-4	D-8
Friday	D-9	Exercises SMG-1	SMG-2	RL-5	ML-3	SMG-3		RL-6	FA-8	Tests	Tests
Saturday	D-10 CO's Inspection	----- Tests -----						----- Half-Day -----			

SUBJECT: DRILL

CODE: D

AIM: To Improve Personal Drill and Teach New Arms Drill

PERIODS ALLOTTED: 10

MAIN REFERENCE: CAMT 2-2

Periods	Subject	Reference	Remarks
D-1	Attention, Stand at Ease and Stand Easy.....	Sec 1-2-3	
D-2	Open and Close Order March.....	Sec 5-8	
D-3	Marching and Halting in Slow and Quick Time, Eyes Right and Left....	Sec 13-14	
D-4	Forming Single File.....	Sec 34-35	
D-5	Attention, Stand at Ease, Stand Easy, With Rifles.....	Sec 53-55	
D-6	The Shoulder and Order from the Shoulder.....	Sec 59-60	
D-7	Getting on Parade with Rifles, Present from shoulder and vice versa, Ground arms, Take up arms.	Sec 61-65	
D-8	For Inspection Examine Arms, Ease Springs, Order from the Examine....	Sec 68-69	
D-9	General REVIEW.....	CAMT 2-2	
D-10	CO's Inspection.....		

## DETAILED SYLLABUS

SUBJECT: MAP USING

CODE: MU

AIM: To Insure all know how to read a map.

PERIODS: 5

MAIN REFERENCE: WO Manual 8868

Periods	Subject	Reference	Remarks
MU-1	Introduction, Care of Maps, and Marginal Information.....	Chapter 1 Section 2-4	
MU-2	Grid References and Conventional Signs.....	Chapter 1 Section 5	
MU-3 4-5	Practical Vehicle Map Exercise.....	Manual 8868	Four syndicates to travel over pick up routes

## DETAILED SYLLABUS

**SUBJECT:** Nuclear, Biological and Chemical Warfare

**CODE:** NBC

**AIM:** To briefly outline the effects of NBCW and how to counteract them.

**PERIODS ALLOTTED:** 6

**MAIN REFERENCE:** CAMT 2-10

Periods	Subject	Reference	Remarks
NBC-1	Introduction to and Protection Against Nuclear Warfare.....	Chap 1 and 2	
NBC-2	Treatment of casualties and decontamination of the Nuclear attack.....	Chap 3 and 4	
NBC-3	Introduction to, Protection Against and Decontamination after Biological Attack.	Chap 6, 7 and 8	
NBC-4	Introduction to Chemical Warfare—Chemical Warfare Equipment.....	Chap 9 and 10	
NBC-5	Personal Protection Against, First Aid in Chemical Warfare and Decontamination after Chemical Attack.	Chap 11, 12 and 13	
NBC-6	Alarm System, Protection and Decontamination of Food—Unit Defence	Chap 14, 15 and 16	

## DETAILED SYLLABUS

SUBJECT: ROCKET LAUNCHER 3-2

CODE: RL

AIM: To bring students up to TOET Standard

PERIODS ALLOTTED: 6

MAIN REFERENCE: CAMT 7-46

Periods	Subject	Reference	Remarks
RL-1	Introduction care and cleaning.....	Lesson 1	
RL-2	Ammunition.....	Lesson 2	
RL-3	Loading, Unloading and Firing.....	Lesson 3	
RL-4	Firing positions.....	Lesson 4	
RL-5	Misfire.....	Lesson 5	
RL-6	Aiming.....	Lesson 6	

## DETAILED SYLLABUS

SUBJECT: RIFLE 7-62mm (FN) C1

CODE: FN

AIM: To bring students up to TOET Standard

PERIODS ALLOTTED: 4

MAIN REFERENCE: CAMT 7-51  
PROVISIONAL

Periods	Subject	Reference	Remarks
FN-1	Introduction, stripping, assembling and care and cleaning.....	Lesson 1-2	
FN-2	Loading, Unloading, Sight setting, holding, aiming and firing.....	Lesson 5	
FN-3	Mechanism, Immediate action and stoppages.....	Lesson 7-8	
FN-4	Review all previous lessons.....	Lesson 1-8	

SUBJECT: SMG 9MM  
 CODE: SMG  
 AIM: To bring students up to TOET Standard

PERIODS ALLOTTED: 3  
 REFERENCE: CAMT 7-10

Periods	Subject	Reference	Remarks
SMG-1	Characteristics, Mechanism, loading, unloading and carriage positions....	Chap 1, less 1, 2, 3	Stress safety precautions
SMG-2	Holding, aiming, firing and immediate action.....	Chap 1 less 4, 5	
SMG-3	Review and TOET.....	Page 39	

## DETAILED SYLLABUS

SUBJECT: MILITARY LAW

CODE: ML

AIM: To inform personnel of service offences and related punishments

PERIODS ALLOTTED: 3

MAIN REFERENCE: QR ARMY Vol 2

Periods	Subject	Reference	Remarks
ML-1	Service offences.....	Art 103.01 to 103.99	Mention only those most likely to affect personnel
ML-2	Punishments and sentences.....	Art 104.01 to 104.99	
ML-3	Summary Trials by Commanding Officer.....	Art 108.01 to 108.99	



## DETAILED SYLLABUS

SUBJECT: FIRST AID

CODE: FA

AIM: To bring candidates up to St John standards

PERIODS ALLOTTED: 8

MAIN REFERENCE: Fundamentals of First Aid  
(first edition)

Periods	Subject	Reference	Remarks
FA-1	The structure and function of the human body. Objectives and principles of first aid.	Chapter 2 Chapter 3	Must qualify St John Standard
FA-2	Wounds, bandages, dressings.....	Chapter 4	
FA-3	Fractures and injury to joints.....	Chapter 5-6	
FA-4	Injuries due to heat and cold, care of unconscious patient.....	Chapter 7	
FA-5	Household emergencies, and injuries due to special weapons.....	Chapter 10 Appendix 1	
FA-6	Artificial respiration (Hoger Nielson method) practices.....	Chapter 8	
FA-7	Practices of splinting.....	Chapter 5	
FA-8	Practices of bandaging.....	Chapter 4	

## DETAILED SYLLABUS

SUBJECT: GRENADE

CODE: GR

AIM: To bring students up to TOET standards

PERIODS ALLOTTED: 3

MAIN REFERENCE: CAMT 7-5

Periods	Subject	Reference	Remarks
GR-1	Safety precautions, introduction, description, stripping, assembling, and striker tests, priming, unpriming and mechanism.	Lesson 1	
GR-2	Principles of throwing the 36 grenade.....	Lessson 2	
GR-3	Other grenades.....	Lesson 4	

## ENTRIES FOR WORKSHOP STANDING ORDERS

## SECTION 1—ADMINISTRATION

1. GENERAL	PAGE
a. Authority.....	00
b. Distribution.....	00
c. Responsibility for knowing.....	00
2. ORGANIZATION—OFFICERS	
a. General duties.....	00
b. Commanding officer.....	00
c. Second-in-command.....	00
d. Administrative officer.....	00
e. Transport officer.....	00
f. Messing officer.....	00
g. Security officer.....	00
h. Fire officer.....	00
i. Platoon commanders.....	00
j. Sports officer.....	00
k. Educational officer.....	00
3. ORGANIZATION—OTHER RANKS	
a. General.....	00
b. Workshop sergeant-major (WO1).....	00
c. Company sergeant-major.....	00
d. Workshop warrant officers.....	00
e. Chief clerk.....	00
f. Company quartermaster-sergeant.....	00
4. ROUTINE	
a. Reveille.....	00
b. Parades.....	00
c. Roll calls.....	00
d. Meals.....	00
e. Lights out.....	00
f. Barracks routine (peacetime).....	00
g. Barracks area routine (peacetime).....	00
5. DISCIPLINE	
a. General.....	00
b. Defaulters.....	00
c. Arrest and confinement.....	00
d. Orderly room.....	00

## ANNEX L

	PAGE
e. Complaints.....	00
f. Interviews.....	00
g. Saluting and compliments.....	00
h. Identification.....	00
i. Theft.....	00
j. Looting.....	00
k. Gambling.....	00
l. Drunkenness.....	00
m. Venereal disease.....	00
n. Damage to and loss of property.....	00
o. Change of duties.....	00
p. Civil charges.....	00
q. Visitors.....	00
 6. ARMS AND AMMUNITION	
a. General care and safe custody.....	00
b. Ammunition.....	00
c. Training ammunition (peacetime).....	00
d. Empties.....	00
 7. MECHANICAL TRANSPORT	
a. General.....	00
b. Care and economy.....	00
c. Drivers documents.....	00
d. Traffic accidents—procedures.....	00
e. Breakdowns—procedures.....	00
f. Work tickets.....	00
g. POL issues, normal—special.....	00
h. Passengers and loads.....	00
i. Speed limits.....	00
j. Recreational transport.....	00
k. Frost precautions (wintertime).....	00
l. Fire precautions.....	00
m. Unit inspections.....	00
n. Driving permits.....	00
o. Private cars and motor cycles (peacetime).....	00
p. Stolen vehicles.....	00
q. Driving of vehicles by officers.....	00
r. Bridge classifications.....	00
 8. DRESS	
a. General—dress and bearing.....	00
b. Working dress.....	00

## ANNEX L

	PAGE
c. Fatigue dress.....	00
d. Overalls.....	00
e. Summer dress.....	00
f. Walking out dress (peacetime).....	00
g. Plain clothes (peacetime).....	00
h. Web equipment.....	00
i. Belts.....	00
j. Badges.....	00
k. Medals.....	00
l. Berets.....	00
m. Boots and shoes.....	00
n. Kit inspections—layout.....	00
 9. FIRE ORDERS (Attached as Annex)	
a. Fire orders—display.....	00
b. Fire precautions.....	00
c. Fire piquet.....	00
d. Alarms.....	00
e. Water supply.....	00
f. Civilian fire brigades (if applicable in peacetime).....	00
g. Smoking.....	00
 10. SECURITY (Attached as Annex)	
a. General responsibility.....	00
b. Gate passes—visitors, etc (peacetime).....	00
c. Civilian employees (peacetime).....	00
d. Booking in and out.....	00
e. Prohibited areas.....	00
f. Security of documents.....	00
g. Security of buildings (peacetime).....	00
h. Security of vehicles.....	00
i. Disclosures of military information.....	00
j. Conversation in public.....	00
k. Press and broadcasting.....	00
l. Security clearances.....	00
m. Security of keys.....	00
 11. PAY AND ALLOWANCES	
a. Custody of money.....	00
b. Audits.....	00
c. Pay inquiries.....	00
d. Barrack damages (peacetime).....	00

## ANNEX L

	PAGE
e. Loss of personal tools.....	00
f. Savings.....	00
12. MEDICAL AND HYGIENE	
a. Sick parades, dress, kit.....	00
b. Emergency sickness or accidents.....	00
c. Admissions to hospital—kit.....	00
d. Dental.....	00
e. Concealment of diseases.....	00
f. Venereal disease and protection facilities.....	00
g. Sanitation.....	00
h. Baths.....	00
i. Litter.....	00
j. Incinerators.....	00
k. Drugs and intoxicants.....	00
13. LEAVE AND PASSES	
a. Annual leave.....	00
b. 24/48 hour passes.....	00
c. Permanent passes (peacetime).....	00
d. Disposal of kit when on leave.....	00
e. Out-of-bounds areas, establishments.....	00
14. ADMINISTRATION AND MISCELLANEOUS	
a. Laundry.....	00
b. Kit marking.....	00
c. Inventories.....	00
d. Barrack stores.....	00
e. Salvage.....	00
f. Mail and postal address.....	00
g. Postings.....	00
h. Arrivals.....	00
i. Departures.....	00
j. Courses and detachments.....	00
k. Haircutting.....	00
l. Radio/Television sets (peacetime).....	00
m. Dogs and pets (peacetime).....	00
n. Damage to civilian property.....	00
o. Unit signs.....	00
p. Injuries, serious illness or death.....	00

## ANNEX L

15. WELFARE AND RECREATION	PAGE
a. Sports committees.....	00
b. Sports facilities.....	00
c. Sports stores.....	00
d. Swimming.....	00
e. Sports—finance.....	00
f. Entertainment.....	00
g. Gardens, etc (peacetime).....	00
16. EDUCATION	
a. Unit classes.....	00
b. Command or formation facilities.....	00
c. Courses.....	00
d. Library.....	00
17. MESSING AND CANTEENS	
a. Mess committee.....	00
b. Diet sheets.....	00
c. Cookhouse cleanliness.....	00
d. Utensils—cleaning facilities.....	00
e. Haversack rations.....	00
f. Canteen hours and regulations.....	00
18. MILITARY FAMILIES (Peacetime only)	
a. Married quarters.....	00
b. Gardens.....	00
c. Admission to hospital.....	00
d. Schools—transport, etc.....	00
e. Charges.....	00

## SECTION 2—OPERATIONS

19. ORGANIZATION	
a. Organization of workshop platoons.....	00
20. DUTIES AND RESPONSIBILITIES	
a. Convoy group commanders.....	00
b. Officer in charge of advance parties.....	00
c. Officer in charge of local defence.....	00
d. Company sergeant-major—camp duties.....	00
21. MOVEMENT	
a. Warning orders.....	00
b. Composition of 'O' groups.....	00

## ANNEX L

	PAGE
c. Organization for movement.....	00
d. Order of march.....	00
e. Vehicle markings.....	00
f. Marking of broken down-vehicles.....	00
g. Route cards.....	00
h. Speed.....	00
i. Density.....	00
j. Action at scheduled halts.....	00
k. Traffic discipline.....	00
l. Action at unscheduled halts.....	00
m. Reconnaissance of diversions.....	00
n. Alarms.....	00
o. Air sentries.....	00
p. Action at dawn and dusk.....	00
q. Intercommunications.....	00
r. Distribution of vehicles.....	00
 22. OCCUPYING A NEW SITE	
a. Advance party.....	00
b. Layout of site.....	00
c. Marking of site.....	00
d. Traffic circuits.....	00
e. Rendezvous and guides.....	00
f. Sequence of tasks on arrival.....	00
g. Camouflage.....	00
h. Slit trenches.....	00
i. Ground defence.....	00
 23. VACATING A SITE	
a. Loading tables.....	00
b. Loading drills.....	00
c. Briefing.....	00
d. Re-fuelling.....	00
e. Collection of signs.....	00
f. Guides for stragglers.....	00
g. Rear parties, composition and duties.....	00
h. Cleaning duties.....	00
 24. CONCEALMENT	
a. Camouflage nets, etc.....	00
b. Vehicles, windshield blinds.....	00
c. Car parks.....	00
d. Control of visitors.....	00



## ANNEX L

	PAGE
e. Cookhouse area.....	00
f. Exposure of personnel, etc.....	00
g. Track discipline.....	00
25. GROUND DEFENCE	
a. Defence scheme.....	00
b. Road blocks.....	00
c. Siting of trenches.....	00
d. Main defended locality.....	00
e. Mobile reserve.....	00
f. Stand-to.....	00
g. Alarms.....	00
26. AIR DEFENCE	
a. Air sentries.....	00
b. Alarms.....	00
c. Opening fire.....	00
d. Scale of slit trenches.....	00
e. Blackout.....	00
27. ADMINISTRATIVE	
a. Latrines.....	00
b. Refuse pits.....	00
c. Baths.....	00
d. Ablutions.....	00
e. Economy of water.....	00
28. INTERCOMMUNICATIONS	
a. Normal wireless layout.....	00
b. Use of frequencies.....	00
c. Security.....	00
d. Line communications.....	00
e. Despatch riders.....	00
SECTION 3—WORKSHOPS	
29. WORKSHOP PROCEDURE	
a. Receipt of work.....	00
b. Checking for deficiencies.....	00
c. 'IN' inspection.....	00
d. Stores demands.....	00
e. Allocation of work.....	00

## ANNEX L

	PAGE
f. Progressing.....	00
g. 'OUT' inspection.....	00
h. Refitting prior to issue.....	00
i. Issue of work.....	00
j. Documentation.....	00
k. Disposal of vehicle kits.....	00
l. Disposal of crews.....	00
m. Disposal of repairable assemblies.....	00
n. Disposal of ammunition.....	00
o. Modified procedures in emergencies.....	00
30. STORES PROCEDURES	
a. Normal routine.....	00
b. RCOC parts platoon.....	00
c. Requisitions and issues.....	00
d. Expendable stores.....	00
e. Tools and tool kits.....	00
f. Losses and deficiencies.....	00
g. Theft.....	00
h. Scales.....	00
i. Reclamation.....	00
j. Cannibalization.....	00
k. Help yourself parks.....	00
31. LOCAL PURCHASES (If and when applicable)	
a. Type.....	00
b. Authorities.....	00
c. Bills and invoices.....	00
d. Accounting.....	00
32. DOCUMENTATION	
a. Army forms in normal use.....	00
b. Locally produced forms.....	00
c. Returns.....	00
d. States.....	00
e. Progress charts.....	00
f. Technical publications.....	00
g. EME Manual.....	00
33. INSPECTIONS	
a. Inspection of unit equipment.....	00
b. Inspection for BLR certificate.....	00
c. Inspection for defect reports.....	00
d. Inspection for abnormal condition reports.....	00

## ANNEX L

34. DUTIES AND RESPONSIBILITIES	PAGE
a. Workshop sergeant-major.....	00
b. Warrant officers and section NCOs.....	00
c. Inspection teams.....	00
d. Storemen.....	00
35. SECURITY	
a. Responsibility for tools.....	00
b. Security of technical stores.....	00
c. Keys.....	00
d. Visitors.....	00
36. FIRE PRECAUTIONS	
a. Fire appliances.....	00
b. Testing of extinguishers.....	00
c. Smoking.....	00
d. Contents of fire buckets.....	00
e. Siting of equipment.....	00
37. FROST PRECAUTIONS	
a. Vehicles—responsibility.....	00
b. Protection of equipment.....	00
c. Protection of vehicles in parks.....	00
d. Use of anti-freeze.....	00
38. BATTERY CHARGING	
a. Fire extinguishers.....	00
b. Artificial respiration charts.....	00
c. Protective clothing.....	00
d. Ventilation.....	00
39. MISCELLANEOUS	
a. Private work.....	00
b. Test circuits.....	00
c. Dress.....	00
d. Cleaning routines.....	00

## ANNEXES

- A. Orderly Officer's Duties
- B. Orderly Sergeant's Duties
- C. Guard Mounting Orders
- D. Guard Commander's Duties
- E. Regimental Police Duties
- F. Duty Driver's Duties
- G. Transport NCO's Duties
- H. Duty Clerk's Duties
- I. Fire Piquet's Duties
- J. Transport Clerk's Duties
- K. Postal Orderly's Duties
- L. Unit Storeman's Duties
- M. Workshop Duty NCO's Duties
- N. Canteen Duty NCO's Duties
- O. Barrack Room NCO's Duties
- P. Bathing Party NCO's Duties

## ANNEX M

**LIST OF ADMINISTRATIVE ITEMS ON WHICH A MONTHLY  
REPORT SHOULD BE SUBMITTED TO THE  
COMMANDING OFFICER**

**"A" Matters**

1. List of men with debit pay balance.
2. Standing orders amended up to date.
3. Minutes of mess meetings.
4. List of outstanding reports, boards and investigations.
5. Review of trade qualifications.
6. Review of promotions.
7. Observations on previous months' financial accounts cleared.

**"Q" Matters**

8. Arms and ammunition checked according to standing orders.
9. Accommodation stores checked against inventories; deficiencies noted and charged to individuals.
10. Fire inspection report and recommendation (serviceability and siting of equipment).
11. Ration account checked.
12. POL account checked with stocks of fuel and containers.

## COMMANDER'S CHECK LIST

This check list is provided as a guide to a unit commander when inspecting the operations of his unit. By checking the operations and functions listed below, the commander can determine which operations and functions are being performed satisfactorily and in which areas improvement is required. This list is not intended to be complete because local procedures and operational conditions will vary and higher formation directives will necessitate modifications to the list from time to time.

### PART I—ADMINISTRATION

#### 1. Office Administration

##### a. *Security of Information*

- (1) Are all classified files, documents and publications properly secured and accounted for?
- (2) Are personnel who have access to classified material familiar with the provisions of CAO 255-1?

##### b. *Institute Funds*

- (1) Are institute funds properly maintained?
- (2) Are institute personnel thoroughly familiar with Institute Accounting and Bookkeeping procedures?

##### c. *Mail*

- (1) Is the mail register properly maintained, ie full particulars entered, neat entries, up to date?
- (2) Are there adequate facilities for protection of registered mail?
- (3) Is the mail clerk familiar with the provisions of CAO 218-3 and 218-7?

##### d. *Duty Rosters*

- (1) Are duty rosters properly maintained?
- (2) Are duties being fairly distributed?
- (3) Are completed rosters retained for three months before being destroyed?

##### e. *Correspondence and Files*

- (1) Is correspondence being filed neatly and in chronological order?
- (2) Are files being maintained properly, ie filed in correct order, correspondence directed on file cover properly and neatly?
- (3) Are files being stripped and steps being taken to destroy them every three years?

## ANNEX N

- (4) Is correspondence being placed on the proper files?
- (5) Are log copies of all outgoing correspondence being maintained for ready reference?
- (6) Is the BF file system efficient and satisfactory?
- (7) Is the ACK register being kept up to date?
- (8) Is the reports and returns list available and up to date?

f. *Publications*

- (1) Are publications being properly maintained and accounted for in the unit library in accordance with EME Manual General R200?
- (2) Are all pertinent reference publications in stock and readily available?
- (3) Are personnel responsible for the unit library familiar with the provisions of EME Manual Management R100 and General R100 and R200?
- (4) Is the General Staff Catalogue of training publications readily available and amended to date?
- (5) Are CAOs, QR(Army), AGIs, GSIs and QMGIs and other office reference books readily available and amended to date?

g. *Personnel Records*

- (1) Are all personal documents properly maintained in accordance with the Manual of Records?
- (2) Are Part 2 Order entries being posted neatly to documents in the manner prescribed in the Manual of Records?
- (3) Are documents filed neatly and in order?
- (4) Are documents classified confidential and being secured as such?
- (5) Are conduct sheets being maintained neatly and properly and being reviewed in accordance with QR(Army) 26.41—26.46?
- (6) Are Individual Training Records being posted correctly and up to date?
- (7) Are soldier's service books being maintained properly ie entries posted from Part 2 Orders etc?
- (8) Is the establishment control record up to date?
- (9) Is the re-engagement control record up to date?
- (10) Is the service in rank control record up to date?
- (11) Is the leave roster up to date?
- (12) Are immunization records properly maintained?

## ANNEX N

- (13) Is the clerical staff familiar with the provisions of CAOs, QR(Army), branch and service instructions?

*h. Unit Orders*

- (1) Are entries published correctly in Part 2 Orders in accordance with the Manual of Records?
- (2) Are unit Part 1 and Part 2 orders numbered consecutively commencing with No 1 at the beginning of each calendar year?
- (3) Are the appropriate entries appearing in the proper sequence?
- (4) Is the BF system for publishing entries of a periodic nature in unit Part 1 orders satisfactory?
- (5) Are unit orders being bound and displayed properly?
- (6) Is the distribution of unit orders adequate?
- (7) Are specific extracts from unit orders being read periodically to the men on parade?

*i. Notice Board*

- (1) Are notice boards located in a conspicuous or readily accessible place?
- (2) Are the proper orders, instructions and information being displayed on the notice boards?
- (3) Are the papers displayed on the notice board neat and tidy?
- (4) Has outdated information been removed from the notice board?

**2. Messing**

- a. Is the messing area at least 300 feet from latrines or all waste-disposal areas?
- b. Does the mess area have good drainage facilities?
- c. Is food prepared in correct and sufficient quantities and at the proper times?
- d. Is hot food served hot?
- e. Are personnel complaining about their rations?
- f. Is trimming of meats and vegetables accomplished with as little waste as possible?
- g. Have mess personnel received a medical examination by a medical officer prior to and periodically during their assignment?
- h. Are mess personnel free from signs of internal illness, skin disease, infected cuts or boils?
- i. Is mess equipment clean, serviceable and in sufficient quantity for unit needs?



## ANNEX N

- j. Are garbage cans tightly covered?
- k. Has a suitable rack been provided for knives, cleavers and other cutlery?
- l. Is the mess and surrounding area in a high state of cleanliness?
- m. Is mess cooking equipment, ie pots, pans, dishes, immersed in boiling water before and after each meal when in the field?
- n. Is a diet sheet being prepared correctly and properly displayed?
- o. Are rations properly accounted for and requested in accordance with RCASC regulations?
- p. Does a commissioned officer visit the men's mess once daily?

### 3. Equipment and Stores

- a. Are stores accounting procedures being carried out in accordance with RCOC Manual Volume 7?
- b. Are unit ledger cards being completed properly and neatly and filed in the correct sequence?
- c. Are individual clothing records properly maintained?
- d. Are stores kept in serviceable condition and maintained in proper bins, shelves etc?
- e. Is lost, damaged or destroyed property properly accounted for?
- f. Are sufficient stocks on hand to meet needs, both present and future?
- g. Are distribution cards properly maintained?
- h. Do distribution cards agree with the actual location of equipment?
- i. Are vouchers completed properly and neatly filed?
- j. Are issues and receipts carried out quickly and efficiently and in the manner prescribed?
- k. Is packaging neat and secure; addresses properly applied?
- l. Are shadow boards being used properly?
- m. Is there an efficient method for controlling issue and receipt of hand tools?
- n. Are different types of stores segregated?
- o. Are tool crib and storerooms kept clean and tidy?
- p. Are stores properly identified and easily accessible?
- q. Are certain types of stores and equipment, when not in use, stored properly eg batteries removed from flashlights, lanterns and stoves drained of kerosene, tentage and blankets aired and free of soil, brush, leaves etc?

## ANNEX N

- r. Are disinfectants, caustics, cleaning material stored in proper containers and separated from clothing stores?
- s. Are the proper and applicable sets of scales of stores and equipment maintained in the QM stores?
- t. Are adequate security measures taken to safeguard stores and equipment?
- u. Refer to Commanding officers' check list in RCOC Manual Vol 7.

4. **Transport**

- a. Are history sheets for each unit vehicle and equipment being properly completed and maintained?
- b. Are the following forms and manuals actually in vehicles and used when necessary?
  - (1) Accident report form.
  - (2) Operation and Maintenance Manuals.
  - (3) Drivers Manual.
- c. Do all drivers have a DND vehicle driving permit authenticated for the type of vehicle operated?
- d. Is the daily MT dispatch sheet completed correctly and properly maintained?
- e. Are daily maintenance tasks being performed?
- f. Is lubrication and winterization of vehicles being completed at the required times and intervals?
- g. Is care exercised to insure that the vehicle is suited for the mission for which it is dispatched?
- h. Are all drivers thoroughly instructed in vehicle operation and maintenance and do they have the opportunity to advance in their trade?
- i. Are tools and equipment adequate for the work to be performed?
- j. Is the POL register properly maintained?
- k. Are adequate security measures taken to safeguard POL?
- l. Are all due safety precautions against fire taken with POL storage and handling?

5. **Communications**

- a. Is communication equipment maintained properly?
- b. Are appropriate technical manuals available and being used by operating personnel?
- c. Are communication security measures being adhered to?
- d. Do operators use correct voice procedure?

6. **Safety**

- a. Is a safety committee established and functioning?

## ANNEX N

- b. Is firefighting equipment serviceable and readily available and are all personnel familiar with its location and use?
- c. Has a fire committee been established?
- d. Are personnel of the fire picquet familiar with their duties as prescribed in the Army Works Services Fire Safety Manual and unit orders?
- e. Are dangerous materials, eg kerosene, electrolyte, POL stored and handled properly?
- f. Are all personnel familiar with the safety precautions applicable to the equipment they are using on the operation they are performing?
- g. Are accidents promptly reported, investigated and are the causes subsequently eliminated?

**7. Housekeeping, Morale and Discipline**

- a. Are dress regulations being observed?
- b. Are uniforms neat and properly maintained?
- c. Are the accepted standards of personal neatness and cleanliness (haircuts, clean shaven, shoes shined) being observed?
- d. Are living quarters neat, uniform and cleaned and comfortable?
- e. Are all personnel given the opportunity to attend religious activities?
- f. Are all personnel given the opportunity to take part in recreational activities?
- g. Are personnel paying compliments in the correct manner and when required?
- h. Are latrines and waste-disposal facilities adequate and properly located and constructed?
- i. Are latrines and waste-disposal facilities kept clean and sanitary?
- j. Are showers and bathing facilities available and being used?
- k. Is unit area being kept clean and tidy?

**8. Internal Security**

- a. Are all necessary precautions being taken to secure doors, windows, file cabinets, safes etc during off duty hours?
- b. Is the system of guard or sentry duty satisfactory?
- c. Are all compounds ie POL, vehicle, properly secured during off duty hours?
- d. Are guards and sentries fully conversant with their duties and are they alert and well turned out?
- e. Are security check points properly located in the area?
- f. Are check points being visited at the proper times as laid down in unit orders?

**PART II—TACTICAL OPERATIONS****9. Security and Defence**

- a. Is the unit defence plan adequate and are all personnel familiar with it?
- b. Are slit trenches dug large enough and deep enough and close to the working area?
- c. Are personnel manning defence positions familiar with their role and proficient with their weapons?
- d. Are damage control squads organized, trained and equipped?
- e. Is camouflage discipline rigidly enforced?
- f. Are personnel familiar with the warning system for nuclear, biological and chemical (NBC) attack?
- g. Has the alarm system for a NBC attack been tested, and if so did unit personnel react in the required manner?
- h. Is the NBC team familiar with its duties and has it been practised in them?
- i. Are vehicles parked at odd angles (but leading out) and dispersed according to a plan that will not yield a pattern to aerial observers?
- j. Is provision made for evacuating casualties?
- k. Is maximum use made of terrain features to reduce effects of nuclear attack?

**10. Destruction of Material**

- a. Does the unit defence plan provide for the destruction of material when necessary (authorized only by formation headquarters)?
- b. Do the plans provide for a priority of destruction?
- c. Are destruction plans understood by the personnel concerned?  
(NOTE: CAMT 11-4 Recovery Technique Chapter 13 refers).

**11. Movement**

- a. Can the loading plan be implemented speedily upon receipt of a movement order?
- b. Is the provision for phaseout of technical operations efficient and fast enough when a move is ordered?
- c. Is the march discipline of the unit satisfactory?
- d. Are reconnaissance, advance and rear party personnel familiar with their duties?

**PART III—TECHNICAL OPERATIONS****12. General****a. Personnel**

- (1) Are tradesmen qualified in the highest group of their trade?
- (2) Are provisions for up-grading adequate?
- (3) Are supervising personnel constantly inspecting, supervising and instructing members of their sections?
- (4) Are personnel aware of the technical reference library and do they have ready access to it?

**b. Layout**

- (1) Is the layout of each section planned to minimize movement?
- (2) Are tool sets and equipment checked out to individuals to ensure property responsibility?
- (3) Are machine and hand tools properly cleaned and returned to tool cribs after each days work?

**13. Workshop Site**

- a. Has an alternate area been selected?
- b. Is the road adequate?
- c. Are signs posted along the main axis and near the entrance to the workshop site showing the identification and location of the unit?
- d. Are section areas well marked?
- e. Is the RCOC platoon located so as to offer maximum convenience to all sections?

**14. Standing Operating Procedures (SOPs)**

- a. Have unit SOPs been produced for all routine functions in the unit?
- b. Are the SOPs being followed?
- c. Is the distribution of SOPs satisfactory?
- d. Do the SOPs conform to SOPs of higher formations?
- e. Do the SOPs prescribe the format for reports, the handling of job cards and items of like nature?

**15. Training**

- a. Is there a unit training plan?
- b. Is the training officer or warrant officer fully conversant with the training plan and carrying it out satisfactorily?
- c. Is there an adequate trades training program being carried out for junior tradesmen?
- d. Are proper records being maintained showing the status of individual and specialist training?

- e. Are technical and training manuals readily available to candidates undergoing training?

**16. Workshop and Control Office Operations**

- a. Is the office established near the principal entry to the workshop area?
- b. Is workshop accounting procedure carried out in the proper manner in accordance with EME Manual Management K010?
- c. Are local contract accounting procedures carried out in accordance with EME Manual Management L101-L107.
- d. Is time accounting being carried out in accordance with EME Manual, Management K010?
- e. Are the necessary statistics, charts and control documents properly maintained.

**17. RCOC Platoon**

- a. Is the prescribed scale of spare parts on hand or on order?
- b. Are spare parts accounting procedures being carried out in accordance with the appropriate Ordnance Manuals?
- c. Are parts issued in an efficient and speedy manner?
- d. Are spare parts stored so as to use available space effectively?
- e. Are bins and drawers properly identified?
- f. Are stocks stored to provide speed in handling and use in making inspections and inventories?
- g. Are large items, which are uneconomical to repair, checked for serviceable assemblies, components and parts which are critical?

**18. Repair Platoons**

- a. Do the sections have adequate stocks of hardware, wood and metal on hand?
- b. Are the ancillary sections located sufficiently close to the repair platoons they serve?
- c. Is the service of the ancillary sections to other main sections efficient and quick?
- d. Are personnel familiar with the operation of equipment used by the section?
- e. Are forward repair platoon personnel rotated periodically?
- f. Are forward repair platoon personnel of the highest qualification in their trade so as to give the maximum efficiency in repair?
- g. Are the tools, equipment and vehicles sufficient to carry out repairs in the forward repair platoon?

**19. Conclusion**

Are units satisfied with EME services within the formation?

## ANNEX O

**POINTS TO BE CHECKED DURING A  
CHANGE OF COMMAND****(In conjunction with CAO 55-2)**

1. Details of any particular RCEME support to be provided or special RCEME responsibilities.
2. General organization of unit:
  - a. Technical.
  - b. Administrative.
3. Major tasks in hand or outstanding.
4. Works services in hand, planned or outstanding (in peace time).
5. State of accommodation.
6. State of unit equipment and technical stores.
7. State of vehicles.
8. All accounts.
9. Discipline.
10. Welfare.
11. Personnel position (including civilians if applicable, in peace time).
12. Boards of officers.
13. Orders (standing and special).
14. Secret documents.
15. Alarm schemes (including mobilization and national survival in Canada).